THE IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN NIGERIA: A VAR MODEL ANALYSIS.

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DEDICATION

This study is dedicated sincerely to my parent's (Professor and Mrs. Mohammed Yelwa) and my entire family.

Pusat Pengajian Ekonomi, Kewangan dan Perbankan
SCHOOL OF ECONOMICS, FINANCE, AND BANKING
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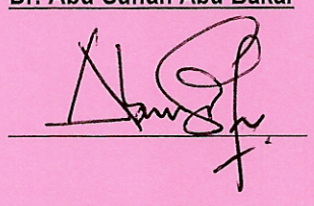

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ABSTRACT

This research work examined the impact of foreign direct investment on economic growth in Nigeria: A VAR model analysis (1985 – 2017). Secondary time series data obtained from World Bank were made to undergo series of tests to investigate the impact of foreign direct investment on economic growth in Nigeria covering a period of 33 years. The variables used are foreign direct investment, economic growth, exchange rate, interest rate and oil price. The stationarity test (unit root) showed that the included variables; economic growth (ECGT), exchange rate (EXCHR), interest rate (INTR) and oil price (OILP) were stationary at their level except for foreign direct investment (FDI) and exchange rate (EXCH) which was stationary after the first difference. They were thus integrated of order one 1(1). The Cointegration test using Johansen Cointegration test revealed that the variables were cointegrated and had a stable relationship in the long-run. To check for short-run relationship, the Granger causality test was adopted, and it showed causality relationship among the variables. As the result suggests, it becomes beneficial for Nigeria to attract FDI in order to stimulate the economic growth rate. The study recommended that there is need to improve the FDIs climate to take advantage of the new global interest in the affairs of the country by implementing sound macroeconomic policies, spurring innovation, improving the investment climate, establishing a transparent legal framework that does not discriminate between local and foreign investors and improving the provision of infrastructure and the government should implement policies that will make the foreign investment on oil sector more efficient and re-position it for economic growth in Nigeria.

Keywords: FDI, oil price, GDP growth, VAR analysis, Nigeria

ABSTRAK

Kajian ini mengkaji kesan pelaburan langsung asing terhadap pertumbuhan ekonomi di Nigeria: Analisis model VAR (1985 - 2017). Data yang digunakan dalam kajian ini adalah data sekunder airi masa yang diperoleh dari Bank Dunia data telah digunakan bagi menjalankan siri ujian kajian terhadap kesan pelaburan langsung asing ke atas pertumbuhan ekonomi di Nigeria yang meliputi tempoh 33 tahun. Pemboleh ubah yang digunakan adalah pelaburan langsung asing, pertumbuhan ekonomi, kadar pertukaran, kadar faedah dan harga minyak. Ujian kepegunan (unit root) telah menununjukkan pemboleh ubah yang terlibat; Pertumbuhan ekonomi (ECGT), kadar tukaran asing (EXCHR), kadar faedah (INTR) dan harga minyak (OILP) adalah pegun di peringkat mereka kecuali untuk pelaburan langsung asing (FDI) dan kadar tukaran asing (EXCH) yang tidak bergerak selepas perbezaan pertama. Oleh itu, terintegrasi dengan perintah 1 (1). Dengan menggunakan ujian kointegrasi Johansen bagi ujian kointegrasi, keputusan telah mendedahkan bahawa pemboleh ubah telah berkumpul dan mempunyai hubungan yang stabil dalam jangka panjang. Untuk memeriksa hubungan jangka pendek, ujian kausal Granger digunakan, dan ia menunjukkan hubungan kausal antara pembolehubah. Sebagai hasilnya, ia memberi manfaat kepada Nigeria untuk menarik FDI bagi merangsang kadar pertumbuhan ekonomi. Kajian ini mencadangkan bahawa perlu untuk memperbaiki iklim FDI bagi memanfaatkan kepentingan global yang baru dalam hal ehwal perhubungan negara dengan melaksanakan dasar makroekonomi yang mantap, memacu inovasi, memperbaiki situasi pelaburan, mewujudkan dan mengolah semula rangka kerja undang-undang yang telus, tidak membezakan antara pelabur tempatan dan asing dan meningkatkan peruntukkan infrastruktur dan kerajaan harus melaksanakan dasar yang akan mejadikan pelabur asing dalam sektor minyak lebih efisien untuk pertumbuhan ekonomi di Nigeria.

Kata kunci: FDI, minyak harga, pertumbuhan KDNK, analisis VAR, Nigeria

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LIST OF ABBREVIATIONS

FDI foreign direct investment
ECGT economic growth
EXCHR exchange rate
INTR interest rate
OILP oil price
VAR vector autoregression
GFC global financial crisis
NEP Nigerian enterprise promotion
GDI gross domestic investment
NEPAD new partnership African development
SAD structural adjustment program
IMF international monetary fund
GDP gross domestic product
DFI domestic foreign investment
MNCs multinational corporation service
OLS ordinary least square
GMM generalized method of moment
ECM error correction model
ADF augmented dickey fuller
CBN central bank of Nigeria
UNCTAD united nation conference on trade and development
NBS national bureau of statistics
WDI world bank development indicator
EFCC economic and financial crimes commission
ICPC international corruption practice commission
OECD organization for economic co-operation and development

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Economic growth of any country required to be sustained in highly competitive environment as high and sustainable economic growth depicts living standards and high productivity of the nation. Domestic and local production plays vital role in economic growth of the country but foreign direct investment (FDI) has much important and crucial role in economic development of any country as it considered as major catalyst for economic development and growth. The investments made by individuals or firms into any country's economy for managerial perspective and interest for establish new business or extend existing business's operations into same or any host country considered as foreign direct investment (Adeleke 2014, World bank 2014). FDI plays vital and crucial role in assessing and tapping new markets for investments by using latest technologies as opportunities rises in any market around the globe (Bashir &Shakir, 2012). The foreign direct investments provide opportunities for new business establishment and creates lot of employment opportunities, improvement in existing businesses by enabling efficiencies and contribute for quality human capital in host countries.

Foreign direct investment considers as important and major contributor of economic growth of Nigeria since few years, according to the report of World Bank (2013), FDI investment observed at inclined significantly from US$542m to 1.9 billion US$ during 1981 to 1989. The highly inclined in FDI investment in Nigeria associated with economic reforms during the era of 1980s' that enhanced the performance of banking sector (Omankhanlen, 2012). Further and later during first decade of 21st century from 2001 to

2008 the increased has been observed in FDI from 1.2 billion US $ to 8.2 billion US $. The transition phase of government from military control towards democracy and civil control enabled economy restore and attracted huge investments from investors around the world during first decade of 21st century as technological boom was at emerging curve during introduction of Global systems for mobile communications (GSM) in Nigeria during early 21st century. The technological advanced communication system enabled Nigeria to increase their growth rate by 17% (Stephen, 2010). Similarly, structural reforms also contributed for economic growth and stability which entails privatization of under-performed government owned business entities such as banking sector found to be an attractive destination for FDI investments that enhanced Nigeria's economic development and business activity. Dramatically, decline was observed as well in Nigeria around 2008 as it was dropped from 8.5 billion US $ to 6 billion US $ in 2010. The global financial crisis was one of the major reasons to decline in FDI in Nigeria as credit crunch affected various sectors and countries. After 2010, the major crisis was over and countries were getting stable the FDI investment again inclined to 8.8 billion US $ but later major declined was observed during 2013 when foreign investment level was shrink to 5.6 billion US $ due to civil unrest that causes major problems including destruction of physical and human assets and capital in Nigeria and foreign direct investment was pulled out and left the country at lowest level of FDI ever. Other aforementioned factors also caused the reduction in FDI, as previous era was referred as benefited with spillover effect of foreign direct investment. The huge populated area of Nigeria attracted large number of investors due to its huge potential market for foreign investors. However, there is lot of work needed to be accomplished in terms of

development of infrastructure and basic needs including roads development, electricity production to meet the demand of nation and need to address the security issues for protection of foreigners and their assets in order to maintain the retain the investors and for better and inclined FDI inflow.

The net inflow was observed in Nigerian economic development by investing 85.73 billion US $ of FDI in year 2012, as much of the investment initiated from Nigerians in the diaspora. The investment was attracted towards electricity generation sector, energy sector and banking sectors. The inflow of foreign investments was encouraged and it was capable to initiate business activities in the country which positively influences that employment generation and domestic economy. Previously, during late 70's Nigerian enterprises promotion intended to reduce the FDI size in Nigeria and major part of economy was handled and inflated by FDI, the policy was not relevant for any rapidly growing economy such as in Nigeria (Iweala, 2016). The significant contribution of FDI in domestic investment has been observed as more than 8% GDI (Gross Domestic Investment) during mid 90's raised from 2% of GDI.

In nutshell, the capital flow towards developing countries majorly depends upon FDI as it considered as pre-eminent source of capital inflow as 36% of total capital flow during mid 90's and rose from 18% flow during mid 70's according to World Bank (1999). According to statistics the annual FDI inflow in African region was doubled during 80's as compare to previous decade of 70's. The rapid increase was observed in 90's and in first decade of 21st century specifically from year 2000 to 2003.

The salient feature of globalization in today's business world considered as conscious encouragement of investment made across borders and invested by corporations and

firms. The developing countries and regions attracted FDI investment as crucial and important element for strategic development and to be contributive for economic development of region and country. The influence and inflow of foreign direct investment considered as mixture of capital, utilization of latest technology, marketing efforts and managerial initiatives (Adeolu, 2007).

The Nigeria considerably important country with potential to become largest economy in region and the fact has been acknowledged by global economic players due to highly skilled employees and workforce and other materialistic resources. The huge reserves of human capital and natural resources contribute towards Nigeria's distinguished position among region, and posses the potential for emerging and stable economy, reduction in poverty, providing best services for health, educational facilities and importantly infrastructural services towards its huge population to fulfill their needs. However, the achievement of above stated intentions were never met due to shrink in size of productive sectors as largely dependence on oil. The natural resources base in Nigeria has considered as large market potential which fulfills the demand for attracting large amount of FDI and stood among top three African countries as most attractive destination for FDI in past decade (Asiedu, 2003).

African countries strive for their better business opportunities and outputs with better business climate with intentions to attract FDI for their economic growth. The previously available capital for these African countries must be increased and considered as an important factor and pillar for Africa's development partnership and raise the level of FDI about US $ 64 billion, these investments considered as pillar for New Partnership for Africa's Development (NEPAD) which addresses the reforms, optimal utilization of

resources and supportive business environment for foreign direct investment pull (Funke and Nsouli, 2003).

FDI is known as one of the important and most significant factors for dynamic and international participation of inflow towards the developing countries such as African region. All tangible and non-tangible assets have been deployed and expected to deploy for economic boost under the umbrella of FDI for better economic conditions. Literatures in this study and practical findings have depicted that FDI is one of the most considerable and influential factors for economic growth, as FDI affect positively and significantly on economic situation of nation, the FDI contributes for domestic business boost, facilitate trade and assist for knowledge transfer and share with utilization of technology (Holger and Greenaway, 2004). The democratic era which majorly considered late 90's and so on, the various initiatives have been taken by government agencies and institutes to attract foreign direct investment towards Nigerian firms and business sectors. The reforms in law that protect the investment of foreign entity contributes for growth of economic situation of country, investment law reforms need to be addressed for protection of investor, various other initiatives such as image of government officials and image of military authorities in perspective of democracy. Various measures have been taken by Nigerian government for protection of investors since the democracy established. The reforms in various business laws have been incorporated for successful business transactions.

Many research scholars have stated that Nigeria's foreign investment associated with colonial era as colonial masters exploited resources of Nigeria for economic development at the region. The investment was made by on some scale by these majestic masters.

After the detection of oil reserves investment from foreign countries couldn't get stable in Nigeria and faced short falls in inflow of FDI (Macaulay, 2012). The importance of FDI has been observed and acknowledged by Nigerian government and the impact of FDI on economic growth and development. Government initiated various incentive policies for investors to promote and increase FDI inflow in the country.

According to research scholar Lall (2002), embarked on the phenomenon of privatizing the assets for encouraging the foreign direct investment for Nigeria, This involved transfer of state-owned enterprises (manufacturing, agricultural production, public utility services such as telecommunication, transportation, electricity and water supply), companies that are completely or partly owned by or managed by private individuals or companies.

The phenomenon entails the transfer and selling off the government owned enterprises related to manufacturing, agricultural related, telecom sector, transportation system, energy and electricity sector and water supply sectors were privatized as they found to be under-performed. The natural resource of Nigeria was utilized for fulfill demand of market and received attention of foreign direct investment in Africa and stated attractive among three leading African region and found to be attractive for investment by foreign investors in past decade. The level of foreign direct investment attracted large number of investors to invest in various sectors of Nigeria as the country was identified as potential huge market (Asiedu, 2009).

According to (Borensztein et al., 1995, 1998), phenomenon and state of FDI in Nigeria identified few channels of economic growth and development. The first channel was identified as binding constraints for domestic savings. The phenomenon depicts that

foreign direct investment found to be influential and enlarge the impact of domestic savings in capital accumulation process. The second channel identified in literate stated that foreign direct investment is one of major instigator for adoption of technology, technological knowledge transfer and it must take place successfully. The technology shift and transfer and technological spillover influences the productivity of firms, it also impacts the efficiency at business operations, the optimal utilization of resources leads for economic growth and development. The third and last channel identified by literature leads towards incline in exports and enhances the capacity and competitive edge among domestic producers (Borensztein et al., 1995, 1998).

The international market faced collapse in crude oil and petroleum, Nigeria's exports for foreign exchange earned and faced decline in creation of acute shortage in country and affected the financial ability due to huge import bills and large external debts. The balance of payments between trade and payments found to be counterproductive and negatively influenced the economic environment due to unsuitable investments.

The above stated circumstances are very crucial and sensitive for economic conditions, for get around these kinds of tough situations federal government took several measures to support economic situation. The structural reforms and adjustment programs (SAP) as package of economic development and policy to attain the suitable climate growth and investment in country. The appropriate policy measures have been taken under Nigerian Structural adjustment programs for aggregating output in country largely based on size, quality of foreign direct investment that can be attracted by country based on its resources and policies to attract investment (Lekan et al., 2000). The reforms of monetary policy must be taken into consideration for attraction of FDI in Nigeria, as appropriate measure

plays significant role in attracting FDI. The policy addresses various aspects including indigenization which is known and referred as policy for restricted investors from other countries to boost the foreign investment into domestic sectors for economic stability established since 1970s. The research scholars have found and stated that various business areas have been banned for foreign direct investment but few business areas have been liberalized and permission have been given for FDI to boost and tap these business sectors (Ahmed, 2008).

The literature and evidence of foreign direct investment have been seen around the world and influence of FDI can also be examined on economic growth of the country, the impact of FDI has attracted large number of research scholars to focus on size of foreign direct investment and the impact of FDI on economic growth. The current study is an attempt for analyzing and investigating the impact of FDI towards economic growth and development on Nigerian economic situation.

1.2 Statement of the Problem

The government of Nigeria has taken various efforts for encouraging and improvement for economic development by brining and attracting foreign direct investment, but continuous investments bring better results but that does not succeed. The size and speed of FDI found to be fluctuate during different economic periods, and recession during 70s had negative impact over FDI investments and early 80s had negative and less pace investments were observed, but the phenomenon was observed among all developing countries and trade size dropped as well by 11% during 1980 to 1982. In addition to previous discussion and issues, the interest level in highly competitive international

markets found to be affected adversely and effect external gratitude for under developed countries. The literature has depicted that worst management and bad economic managerial moves negatively affect capital income and increased fallen domestic savings negatively influenced the FDI performance (Nwankwo 2015). Various other research scholars depicted that countries strive and put their energies to encourage foreign direct investment to boost economy. On the other hand investors hesitate to enter Nigeria due to various reasons and problems which include poor infrastructural facilities, corruption at higher level, insecurity for investment and other resources, violence and indiscipline among stock exchange markets (Olatunji 2016). Several policies have been initiated and adopted by government for attracting foreign investors to take advantage of globalization, specifically, government has taken the decision to implement IMF monitored liberalization for its economy to welcome foreign affairs for manufacturing and production sector, various incentives have been introduced for various business sectors to take ownership of equity among all industries but with restricting few sectors such as military equipment, energy sector such as gas and oil, iron industry and steel sector.

Government adjusts various reforms to attract business activities and investment for their business sector, these incentives includes various tax reliefs, availability of cheap and quality raw material and tax relaxation. The economic reforms have taken place long time ago since 80s related to privatization options, promotions on investment in specific sectors, structural changes and expert zones during 80s and 90s. The reports found that these efforts of government failed to stimulate FDI and caused low pace for social development, poor infrastructural issues and technology transfer, huge unemployment, indebtedness and finally failure in gross domestic product incline. However, there is lot

more remaining to know about foreign direct investment and its role on economic development in Nigerian region and research needs to be conducted on impact of foreign direct investment for economic growth.

Ahmed et al. (2015). conducted study on FDI size and impact on Nigerian economy for boosting capital inflow, reduce unemployment and increase employment opportunities, technological advancement adoption for country, it has the ability of shifting profit and tax in other cross border territories through appropriate transfer patterns

Research scholar Jimoh et al. (2012) conducted study on Nigeria, the study found that FDI impact on GDP growth of country on long-term basis and establish long term relation between FDI and economic growth. The inclusion of foreign direct investment in any country influences the economic development and growth, further it contributes for reducing unemployment and to stabilize economic situations. Further, the research needed to be conducted on analyzing the impact of FDI on economy of Nigeria and suggest policies for attracting investments and to boost economic growth.

1.3 Research Questions

From the above discussion the research questions are:

i. Is there any relationship between foreign direct investment (FDI) and influence of FDI on economic situation and growth in Nigerian context?

ii. Does (FDI) have impact on the economic growth in Nigeria?

iii. Are there any issues and challenges for foreign direct investment and economic growth and development in Nigerian context?

1.4 Objectives of the Study

The main objective of this work is to analyze the foreign direct investment on the Nigerian economy using data from 1985 – 2017. The specific objectives of this study are:

i. To examine the relationship between foreign direct investment (FDI) and economic growth in Nigeria.
ii. To examine the contribution of economic growth, exchange rate, interest rate and oil price in explaining the variation to foreign direct investment in Nigeria.
iii. To know if there is any significant impact from the shocks in economic growth, exchange rate, interest rate and oil price towards foreign direct investment in Nigeria.

1.5 Research Hypotheses

The hypotheses that will guide this study are as follows:

H_{01}: There is no relationship between FDI and Nigerian economic conditions and growth

H_{02}: There is statistical relationship (long-term) between Foreign Direct Investment and Nigerian economic development and growth

H_{03}: Foreign direct investment influence Nigerian economic indicators and growth on short term basis

1.6 Significance of the Study

The present will be one of the pioneers and will contribute to body of knowledge by addressing the literature gap that exist and depicted in previous studies and undertaken to analyze the impact of FDI of economic growth. The current study presents the empirical

relationship among non-extractive FDI and economical growth in Nigeria. The present study intends to examine the factors of foreign direct investment in Nigeria but there is lack of empirical findings among factors of FDI and outcomes such as economic growth (Adeolu, 2007).

The current study adopted the model of previously developed for determining the above stated scenario therefore, the model utilized by Akiri, Vehe, and Ijuo (2015) has been adopted for current study. The findings of present study contribute to the existing body of knowledge and literature by providing valuable recommendations for policy and decision makers as good source for effective decisions. The research conducted at academic side provides good glimpse for decision takers and policy makers as practical people has less time to go through academic research. The study will be assisting in policy development as it enable for initiating and developing the long term strategy economic reforms based on empirical findings.

One of the major contributions of the present study is to explain the relationship among FDI inflow and economic growth and development of Nigeria, hence specific dimension of study talks about the country's move towards FDI related growth in economy by providing evidences of economic growth due to foreign direct investment in Nigeria. The theory of conventional economics explains the growth in economic situation due to investments and number of studies empirically have been conducted and support the notion by explaining the causal relationship among economic growth by foreign direct investment, as the size and frequency of FDI influence the economic conditions positively and significantly. Previously, research scholars have conducted studies to examine the phenomenon of FDI and investigated the benefits harvested by host nations

by better quality control initiatives, management related skills and knowledge, best HR practices and techniques and marketing efforts and has improved production procedure due to effective inflow of FDI in to the country which positively impact the economic growth and associated domains as found and stated by Moran, (2002).

The present study expected to provide new dimensions and uncover the knowledge and establish the guidelines for researchers to examine the associated dimension of economic growth influenced by foreign direct investment which may be overlooked by the present study. The foreign direct investment expected and assumed that it brings large number of benefits to the host nation by increasing economic activity and uprising the economic growth. On the other hand, proponents such as World Bank and IMF considered as foreign direct investment and attract large scale FDI to increase the economic activity by efficient usage of allocation of all types of resources.

1.7 Scope of the Study

The present study aims to analyze the role of FDI in economic conditions improvements in Nigeria, the actions and measures have been taken by government during different era has been considered to analyze the effect of investments on economic growth since 1985 to present by considering various indicators of evaluation the impact of FDI in stimulating Nigerian economic conditions.

1.8 Study Formation

This research work is arranged into five chapters and each chapter is divided into subdivisions. Chapter one is Introduction which focuses on background to the study,

statement of the problem, objectives of the study, research questions, research hypotheses, significance of the study, scope of the study. Chapter two is the literature review and theoretical framework; it begins with conceptual review, theoretical review, empirical review, theoretical framework through gap in literature. Chapter three is the methodology which contains research design, model specification, data requirement, sources, description of variables and measurement, evaluation criteria. Chapter four is data presentation, analysis and discussion of results which contains data presentation, unit root (stationarity) test results, pairwise granger-causality tests, interpretation of results, discussion of findings and implications of the study. Chapter five presents the summary of major findings, conclusion, recommendations and contribution to knowledge.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Conceptual Review

Foreign Direct investment (FDI) is investment made to acquire a lasting interest in or effective control over an enterprise operating outside of the economy of the investor. The phenomenon entails the concept of investing financial resources largely as inflow direct to other nations from parent country while considering long terms relationship establishment and influences over management in host country (Romer, 1986).

The research scholars have presented various points of view about foreign direct investment, foreign investment must fulfill voting shares or in other words that multinational firms have greater control on business operations to utilize the resources. The capital provided by the investor firm or an individual flows considered as FDI inflow it also includes reinvestments and other capital gained from independent direct investments, hence, all financial movements included foreign direct investment inflow, existing stock and new investments, further earning retained, loans and funding or providing funds for cross border business alliance in terms of acquisition or merging of two entities. The economy of host country receives positive or negative effect due to inflow of huge size of FDI, but they need to focus and consider for balance of payments as inward flow of investment, but from the perspective of parent and origin of investment considered as outward investment.

Research scholars and literature has stated that foreign investment are not only shifting the capital from one territory to another, but it has much more economic influence on both countries either host or home. Further to the capital shift or movement, it touches the

management skills such as movement of managers from one station to another, technology shift such as movement of equipment or installation of technical equipment at new places and facilities, other tangible and non tangible assets have been taken into consideration under umbrella of foreign direct investment. Contrary to the portfolio investments, the foreign direct investments found to be exerting more control over management on foreign business operations (Devrim, 2009). It has been evident from various and large number of evidences around the world that foreign direct investment influences positively in domestic economic conditions by uplifting the revenues and decrease the shortfall of funds in developing nations and economies. As developing nations and economies don't have potential to address or fulfill the gap of funds or financial resources to meet the running cost or necessary arrangements for smooth operations of business. There are other benefits can be harvested by implementation and adoption of latest technological advanced equipments Adegbite and Ayadi (2010).

It has been discussed long time ago that FDI includes various aspects, in nutshell, foreign direct investment considers and entails various aspects such as externally available technological based resources such as artificial intelligence, software, machines and internet based devices for communication and other business operations, the expertise related to marketing domain, the expertise associated with management and most important financial capital. All resources collectively such as financial resources, physical resources and organizational resources influence and positively impact the economic conditions of the host country by stimulating their economic growth and economic activity. The efforts of government can never be ignored and policies of government stimulate the economic activity and attract large size of foreign direct

investment of productive grounds and most importantly the controlling abilities of firms which entail managerial expertise, capital resources and technological advanced resources to boost and influence the production scale of firm (Omankhanlen, 2011).

Various scholars have defined and expressed FDI in diverse ways by considering different aspects and indicators, it is defined as investment and capital based inflow from parent firm or country for acquisition of firm or to buy majority shares to influence on decision making for business operations. The second description of FDI has been given by reinvestment of profit or earnings of firms to cross border and extending the boundary of businesses. The third description of FDI includes to gain the shares of domestic market on long or short term basis as it has been seen that it has rapidly grown and became largest source of capital shift from developed nations towards under developed countries and regions.

The various and diverse form of FDI has been given by scholars and according to World Bank (2010) also explained the phenomenon of foreign direct investment which include the Greenfield investment, merging and acquisition of firms in host countries, reinvestment into new business or new markets. The greenfield investment generally referred as initiating new business ventures and establishment of new business operations on the basis of productive assets of home country. The international or across border investment such as purchase of local or domestic assets to foreigner investors and transfer of ownership of such assets considers as cross border foreign direct investment. Reinvestment taken as an important business strategy; that entails the specific portion of earnings onto new business by tapping new markets across the border (World Bank, 2010).

As it is stated earlier in the present study that various aspects of foreign direct investment has been described by research scholars and official authorities, the OECD has defined FDI and given the benchmarks for investment to be considered as foreign direct investment (OECD, 1996). The definition of foreign direct investment is also given as "*the objective of obtaining a lasting interest by a resident entity in one economy (direct investor) in an entity resident in an economy other than that of the investor (direct investment enterprises)"*.

The definition talks and discuss about the long lasting interest of investors in establishing long term association between direct investment and targeted enterprises to take managerial control to influence the decision and productivity of businesses. The different terms used on different times such as 'influence' or the term 'control' and 'long term' have been used to refer different situation and distinct between FDI and portfolio investments, because in short term interest of in short term business transaction investor has no interest to gain the control for longer time period. The decision making control or to be influential towards decision making aspect of management it ultimately affect the productivity of the firm and differentiated FDI from other types of cross border investments. The influence has different picture and aspect as it enables investor to select members the board of directors in foreign country and take the decision making control for long time period (Moosa, 2002).

Various other research scholars have presented their opinion on definition of FDI as they stated that FDI expected to be contributive in economical growth and uplifting the life standards of region, this also involves the foreign investment and capital inflow into domestic domain and business to boost the economical activity. It also includes the

forward and backward links of domestic economical situations by providing employment opportunities and stimulation of economic activity by initiating new business ventures (Jenkin and Thomas 2002). According to financial times magazine, the magazine also embarked on the FDI and its determinants, it explained that foreign direct investment considered as investment from across border into new market initiated by government of an individual or firm that includes various business operations establishment by purchase of assets or by presenting their interest in specific sector of business. It also includes the acquisition of such assets that provides income in foreign country that entails control of business operations in host country. It is beyond the acquisition of assets only, but also includes the transfer of ownership in exchange of capital, management, technological aspect and required organizational skills.

2.1.1 Different Types of FDI

It has been observed after considering the scale of foreign direct investment that only large MNCs engage their resources in investing overseas and initiate new business ventures, these investors largely divided into two considerable types of investment initiate from other countries or involve cross border business ventures. These two major types usually named as horizontal FDI and vertical FDI, further type is known as conglomerate. The definition of horizontal foreign investment referred as firm that invest for expansion of their business by tapping new markets and producing same type or products as before or little comparable goods are added to the portfolio in host country. Horizontal foreign direct investment treated as central aspect of product development by differentiating their goods or services to attain success and market share among highly

competitive environment. Horizontal FDI largely based on two motivational aspects, the first aspect is to maximize the profit margins by extending their market to other country by assessing the potential in target country or foreign market. The second motivational aspect involves reduction in cost by saving additional cost or low input cost including cheap labor. In addition to previous discussion; horizontal foreign investments usually undertaken for substantial usage of monopolistic advantageous aspect; especially when they have to face little or few restrictions in potential market or country.

The second important type of investment from foreign firms or countries entails the concept of vertical FDI, the vertical FDI capitalize on available opportunities of acquisition of other related business such as raw material provider or by establishing close relationship with them to influence the price and quality of raw material for production, the vertical FDI also includes the acquisition of distribution channels of finished goods to customers. The prime objective of vertical direct investment supports to reduce the cost of production at all nodes from raw material to distribution of goods to outlets or consumers, this type of investment largely considers the reallocation of resources to keep the low cost location. The firms establish their own related and associated network in target country or host country that seems to be convenient for MNCs to access the market effectively for the services and other product goods according to various research scholars including Van Marrewijk, Garretsen and Brakman., (2006).

Another effective and largely used investment strategy is known as conglomerate investment, the concept of business extension involves the unrelated businesses added to the existing setup. This is very unusual form of business and foreign direct investment as

there are lot of barriers has to be faced by investors, these barriers may include entering requirement of specific target market of new industry. These kind of complex foreign investments requires analytical solutions for international operations, lot of diversified skills needed to be incorporated, lot of alternative strategies must be devised in order to secure the investment in case of any risky investment in new market with totally new products or services. MNCs or enterprises directly access the market by investing their resources by establishing their new business setup, which is referred as Greenfield investments, the other available option to enter the new market stated and widely exercised as acquisition of firms in targeted market, this venture of entering new market also known as brownfield investment.

2.1.2 Factors that Influence FDI Decision Making

The one of most important and crucial factor in financial investments is taking appropriate decisions backed by careful planning process about inclined level of foreign direct investment at MNCs. The economic theory and the empirical evidences explains the capital inflow must boost the profit margin from low scale to high scale profit by enhancing the economic activity and assessing future and expected profits from investments made. Profit maximization considered as one of important and key factor for motivational undertaking and economic investment activity (Carbaugh, 2000). The expectation of higher profit margins known as one of important factor but it is not only the factor that needed to be consideration, various other factors found to be influential in financial decision making for investments in foreign countries and largely divided into large group of factors including company related and country related.

The first type of group that demonstrated company specific factors includes factors associated with foreign companies for related and associated businesses with respect to country or target market. There is not limitation for under discussion factors in terms of demand & cost factor of business.

The firms involved in foreign direct investment take that investment opportunity as an expansion of existing business operations as described by de Mello (1997). If the firms assess that the demand of their products or services has gone higher and more profit is expected by investing in targeting countries or market they take that opportunity to maximize their business operations in targeting market and export their goods to the potential market under foreign direct investment. The elimination of competition in foreign market also considered as one of major instigator to increase the intention of making foreign investments, this transaction may take place by initiating some acquisition or gaining control over firm in target market as globalization phenomenon has increased over number of years and firms strive to operate across border. These factors may change firm to firm or sector to sector and economy to economy but may overlap and similarity found among these factors in each category.

Another important factor needed to be taken in consideration is cost, as it has been concerned as struggle of firm to enhance and maximize the profit of firm by reducing the cost of production at each note of production chain. The cost of labor is another important factor required to be consider and cost of other physical, financial and organizational resources in foreign country specifically cost of transportation is another important factor which must be evaluated comparatively to the home country, these factors may be influential for shifting the whole business unit to the host country due to low labor cost

and availability of raw material on competitive basis (Carbaugh, 2000). Economies of scale is also considered under the umbrella of cost cutting techniques, relative prices of other material used in production and usage of financial resources in recipient nation.

The decision making received impact and influence from various factors, these country related factors impact on decisions to conduct business in foreign markets in any potential sector. These country-related factors entail various factors such as institutional features of targeting market or host country (De Mello, 1997). One of the most important factors is politically stable situation of the country, the democratic history of the nation, strong and protective legislation and laws of the country as these provides solid grounds for FDI initiatives. The protection against intellectual property rights, the involvement of government for stable and emerging economic situations, procedures for accomplishing various tasks, taxation system and incentives for investments by relaxation on tax and procedural ease. In addition to previous discussion, economic stability and economic performance of nation associated with various factors such as degree of openness, tax relaxation and rebate system, rules and regulations for imports and exports of products. The research scholars De Mello (1999) stated that various factors as discussed earlier in the present chapter assist in balancing the payment schedules, the increase in the size of domestic market and absorptive capacity of targeted nation.

There are number of studies have been conducted so far on foreign direct investments in different countries and on diverse markets with different regions of the world. Few studies such as Hirvensalo (2001), indicated important factors associated with FDI flow and consistency, the research scholar depicted that potential economic growth and available opportunities in the targeting market attract the foreign MNCs to invest in the

sector in specific region and country to gain economic benefits and ultimately contribute for large economical activity. The current situation and phenomenon can also be examined in Western markets, investment climate, politically stable government, educated workforce; productive and high performance oriented skilled labor and well developed telecom and infrastructure. Further, there are various other factors needed to be taken into consideration such as market-oriented changes, inflation ration of targeting country, policies for inflation control, strong and effective financial and monitory rules and regulations to reduce economical risk and enhance financial inflow in EU countries according to the study of (Calvo *et al.,* 1996). The various factors found to be attracting FDI in country and boost the cash inflow in the country from MNCs is believed to be the processes of privatization, immense opportunities for foreign countries to acquire the control on newly privatized firms.

2.2 Theoretical Review

Economic growth and the predictors to boost the economic activity has been observed and considered by various economic theories that explain the phenomenon of economic growth and development in the nation. Among which are: Big Push Theory, Schumpeterian Growth Theory, Harrod-Domar Growth Theory, Solow-Swan Growth Model, Neo-Classical Growth Theory, Endogenous Growth Model. Some of these theories will be discussed while the one most relevant to this research study will be picked.

2.2.1 Big Push Theory of Economic Growth

The Big Push theory relates and support economic links as it developed in 1940s as one the most popular theory that suggest the countries to shift or boost from one step of economical development to another cycle, the theory also entails the large investment of infrastructural aspects and educational aspect with the involvement of private investment, with the purpose of moving from one productive stage to another stage of development and productivity. In late 1980s the idea was revived and reformulated by Murphy, Shleifer, Vishny (1988).

The current research has link with Big Push theory, the current scenario here, large scale investments for educational sector, similarly for technological adoption and infrastructure development through private foreign investment are considered as one of crucial factor in economic growth in Nigeria. However, another important question rises that needed to be answered that how can foreign direct investment can boost itself in wrong economic environment or inappropriate economic conditions? And most important; when it is evident that economic development and growth largely based on the scale of FDI.

2.2.2 The Schumpeterian Growth Theory

Austrian economist has come up with economic growth theory during 20th century, as stated by Schumpeter (1934). The novelty of the current theory explains the economic growth achievement through innovation, creative destructive processes and technological progress in terms of creation of economic boost. Entrepreneurs initiate newly and

creative ideas to be establish in real world by meeting the specific demand and enjoy the business return by creating unique and monopolistic product or services. Due to rapid creativity and innovation older technologies becomes obsolete by shorten their lift cycle and due to newly more efficient available product or service with competitive edge. This phenomenon has also been used by various scholars as destruction by Schumpeter (1934). The phenomenon can also be explained through previous technologies which obsolete and destroy the previous innovations. The theory mainly emphasized on retaining old technologies without regards to innovation. The weak point of this economic model is that it does not take into cognizance that world population is growing at a faster rate and it can only be matched with continuous innovation and invention in technology for increased output to meet the increasing demand.

2.2.3 Harrod-Domar Theory of Economic Growth

The another model to determine the economic growth known as Harrod-Domar model is considered as early post-Keynesian model to determine the economical growth. It is used to determine the economic growth rate by assessing the level of productivity and savings by a nation or country. The model argues that economic growth and stability has nothing to do with natural reason to keep its balance, but it is influenced by various factors. The model was firstly initiated and developed by Roy F. Harrod (1939), later Evsey Domar (1946) updated the mode. Another similar model to determine the same economic growth was proposed by Gustav Cassel (1924). The model of Harrod-Domar considered as precursor to exogenous growth model, as researchers have defined three types of growth, if economy don't get to the growth stage and stuck into recession that situation referred

as Warranted growth. The model also explains that actual growth is real rate to increase the GDP of country every year, it is further referred as required economy to sustain and maintain the employment level of country. It can be explained that if growth rate of labor is observed as 3% annually, then to maintain the employment ratio the economy's annual growth rate must also be kept at 3% in order to rationalize.

The growth largely based on the labor rate and capital; if country attracts more investment from foreign MNCs then capital generation will lead to more economic activity and economic growth that considered as implication of the model. The more less develop countries or under develop countries economically deal with implications, such as availability of large workforce in these nations may not match with capital activity and cause to slow down the economy. LDCs face shortfall in their financial balances and may not acquire sufficient rate of investment, therefore, more investment may gather in terms of stock but investment becomes low. The economic growth largely based on policies, rules and regulations of government to increase and attract the investment efficiently by adopting technological advanced applications as implies by model.

2.2.4 Solow Growth Model

Solow and Swan (1956) developed the model independently, to examine the relationship between foreign direct investment and economic growth by considering the role of technology development and enhanced technology improvements, enhanced productivity and efficient business processes to influence the growth (Lim., 2001). The circumstance of the nation or country matters largely in determining the influence and affect of foreign investments towards the economic development, if economial situations is found to be

worst then it may take longer to harvest the benefits, as compare to stable policies and system based economies. The model talks about the growth in capital stock, the workforce growth and technological advancements to interact each other to gain mutual benefits. Solow model also considers as it receives affects from supply and demand ration of products or goods or services and considered as central role in determining the economic growth. The model also emphasized on improvement of technological growth and efficient labor to boost the economic activity by adopting latest technological based equipment and processes, meanwhile host countries must be able to serve with better climate for attracting huge foreign investments. Majority of the underdeveloped countries strive and encouraged to gain economic growth rapidly and initiate some reforms to attract the foreign direct investment. The model considered as pretty much suitable for economic growth of Nigeria and other related under developed countries.

2.2.5 Neo-Classical Growth Theory

An American economist depicted the theory of neoclassical growth theory during 50s and 60s to determine the economic growth after conducting rigorous research studies on phenomenon of economic growth according to Noble prized winner research scholar named as Robert Solow in explaining the influences on economy. Another British researcher and economist contributed to neo-classical theory of growth. It is known as economic theory that determine the consistency of economic growth rate with influence of three major driving factors that includes labor, capital and technology. The theory entails the discussion about level of labor and capital for production and to sustain and maintain economic position of country.

The technological changes found to be major predictor that impact and influence the economy of the country, the economic growth can never be achieved without advanced technological aspects. The theory also depicts and explains the important factors that found to be necessary for economic growth and maintain economic activity. The factors and right strategy for utilization of resources and factor enable firms to temporary maintain between growth of economy and while considering the appropriate level of equilibrium. However, the theory also explains the difference between temporary equilibrium and long term equilibrium, the theory also clarifies that achieve equilibrium can be achieved without involvement of any factors.

The belief about capital collection due to foreign investment into economy and the utilization of capital found to be most important factor; this belief stated as the base of theory of neoclassical growth. The relationship between capital and workforce needs to specify for determining the economical output, finally, the involvement of technology takes place as without technology it is not possible to gain productivity and efficiency in output as capabilities of labor matter a lot in explaining the relationship between investment and economic growth. The theory also discusses and explains the function of neoclassical growth theory in explaining the growth and equilibrium of economy which is demonstrated as: Y= AF (K,L). Whereas, "Y" presents the gross domestic product of economy, and "K" demonstrates the capital share, "L" denotes for amount of unskilled labor presented in economy and "A" demonstrates level of technology. The link among technology usage and workforce influence the function of production that may need to be rewrite and it will be presented in this equation like as: Y= F (K, AL).

These variables considered as inputs and any kind of increase in these inputs will have some affect on GDP, therefore, equilibrium of economy must be taken into consideration. However, research scholars have added that any change makes these inputs unequal the return will be destroyed and disturbing. This further entails that increase in two inputs will have exponentially affect returns by decreasing. Contrary, technology is considered as one of crucial and important factor in economic growth, the involvement of technology may add in the output when it produced by utilization of technological equipments and technical grounds. Physical labor considered as important factor to contribute for required output in industrial economy as it relies on labor, the unemployment rate or availability of employment opportunities also play their role in determining the economy of country. Research scholars have stated and named this phenomenon as caps, with technological aspect these caps are non-existent and it found to be possible in realizing the exponentially higher growth and higher equilibrium.

2.2.6 Endogenous Growth Model

The under discussion model was developed by Romer and Lucas (1988) and was named as Endogenous growth model. Scholars have found and stated various criticize Solow's explanation, later research scholars seeks to incorporate the technological aspect in economic determination during late 80s. For the said purpose theory of endogenous growth was equipped with mathematical explanation for advancement of technology and adoption of technology that assist in financial gains. The under discussed model incorporated the concept of human capital, knowledge and skills that contribute for high work performance and enhance the productivity of the firm. The physical capital of the

firm, human capital of firm found to be effective and influential to increase the rate of return. Therefore, as whole the research scholars have witnessed constant returns to capital and it is nearly impossible to achieve steady state in economic situations. The enriched investments enlarge the accumulations but it doesn't slow down the growth, but type of capital influence and determine the growth rate. The model emphasized on technological aspect for growth of economy and developing the human resources and capital is considered as core value for model and highly appropriate for developing countries such as Nigeria. The major areas have been identified found to be lacking in developing countries which have retarded its economic growth.

2.3 Theoretical Framework

Current phase of the study discuss the theoretical framework of research, previous phase of the study entails the discussion in relevant theories and reviewed the important theory named as Neo-classical growth theory that determines the economic growth as developed by Solow. The researcher chose theory because of the peculiarity of the Neo-Classical growth theory in Nigerian context to determine the economic growth. The proponents of this theory placed emphasizes on capital, labor and technology. The growth and the technological changes of Japan, South Korea, and Taiwan were deemed to be derived from technological changes. It is this specific model that has been promoted over the years by institutions such as the IMF and the World Bank. The researcher takes into cognizant that labor is very significant in the Nigerian economy because it is the driving force in economic growth and development, and that it is necessarily embodied with

human capital in all its activities. Also, technology still remains the pathway to economic growth and development of the Nigerian economy.

Again, the Neo-classical growth model advocates the use of technology as a veritable tool for economic growth and development. There is need for policy makers at both the federal and state level to incorporate technology into the systems of government. Furthermore, it is these tenets of Neo-classical economists stated above and its advocacy by international institutions like World Bank, IMF etc that drew the attention of the researcher. The technological perspective has been incorporated in neo-classical model that affect the GDP per capita for long term. The regular incline in gross domestic product based on technological development increase the productivity of workforce. The regular and continuous growth in gross domestic product based on the technology utilized by the country or firm. Thus, neo-classical growth model concern the following production equation and function.

i. $Y = AF(K, L)$ (1)

The above equation presents the different variables such as y, A, F, K and L; whereas Y presents the gross domestic product, L presents the unskilled labor, A demonstrates the level of technological usage, K presents the stock of capital. The production function will be affected due to the change in exogenous variable in present scenario it is technology.

The production receives influence due to technological advancements whereas parameters A incorporated the change due to technology. The research scholars have identified the significant way to incorporate technology by assuming it as labor augmenting and the equation for production will be changed as under:

ii. $Y = F(K, AL)$ (2)

It is notable that technology-based labor augmenting implies that productivity of labor has been increased because of these changes.

Another way of incorporating technological advancements in production function by assuming the progress inclines among all factors including capital and labor for production function, which is quite different as compare to previous labor related concept. The research scholars have re-written the production functions as (i) previously, but updated as under:

iii. Y-AF(K, L) (3)

The total factor of productivity represented by A, that represents the both factors of input. It has been stated in literature that empirical estimation of production function specifically related to the contribution of growth in total output that is demonstrated as Solow residual which relates to the total factor of productivity. That used for measuring the incline in output which is not influenced by factor including labor and capital. The fixed proportion of production function depicted by Harrod-Domar economic growth model presented different aspect, but neo-classical model considers the proportion production function on variable aspect, that taken as numerous possible substitution among labor and capital in production process.

That is the contribution of the researchers base the theory called neo-classical growth model, which is different and previously it was considered as variable proportion production function. The theory also explains that phenomenon of shift from neo-classical to Harood-Domar model assumes that savings and planned investment ration always found to be equal for immediate adjustment in price (including interest).

As previously described assumptions, the theory of neo-classical growth considers and focus the attention on factors related to the supply chain such as technology development and capital for assessing and determining the growth rate of country. Therefore, dissimilar to Harrod-Domar model of growth, it ignored the aggregation of demanded goods to limit the economic growth. Therefore, the concept is named as classical and enriched with 'neo'. The output through this model can be achieved for short term by enhancing the savings and through higher rate of capital formation. However, it has been depicted that the model of economic growth diminishes the returns of capital limit. The assumption of neoclassical model remains constant to diminish the returns for labor and capital separately.

The further discussion carries on explaining the role of neoclassical theory in growth of economic situations through accumulation of capital. These accumulations consider the two important factors including saving and investment scale. The process of growth of economic indicators ends at the steady state equilibrium, as it referred to the growth rate of output found to be similar to the rate of workforce and rate of capital growth, which is presented in equation as (i.e, $\Delta Y/Y = \Delta L/L = \Delta K/K$), therefore it is assumed that per capita capital and income are stable and no changes has been observed.

It is important to note that per capita income remain constant similarly capital per labor must remain constant for steady rate equilibrium, on the other hand labor force grows that imply income and capital observed to be inclined similar to the labor force. Since labor force or population growth demonstrated by the letter steady state equilibrium therefore,

$= \Delta Y/Y = \Delta K/K = \Delta N/N = n$

Neoclassic growth theory also discusses the growth process from initial phase to steady state equilibrium.

Now, following phase of the study analyze the impact and influence due to changes on technical aspect and changes in technology on long term economic growth figures of nation. Again it is very important to keep in mind that growth theory (neoclassical) incorporates the technological changes as exogenous factor. Due to these factors technology change explains that it must be determined outside the model's parameter, which shows that it must be an independent of the values for other associated factors such as capital and labor. The production function will be demonstrated as under:

iv. $Y = AF(K, L)$

Considering in this way A represents total factor productivity (that is, productivity of both factor inputs). When we empirically estimate production function specified in this way, then contribution of A to the growth in total output is called Solow residual which means that total factor productivity really measures the increase in output which is not accounted for by changes in factors, capital and labour. Further, incline in labor and growth for output determination is in important to note the contribution of increased rate of growth in labor or capital. The theories of growth including neoclassical explain that output growth rate found to be steady state equilibrium equal to rate of population or labor and exogenous for rate of saving that shows that it doesn't depends on rate of saving.

In nutshell, the rate of savings not appropriate to determine the steady state growth rate output, but it cause to enhance the steady level according to per capita income by increasing the capital per head. The rate of growth of per capita income that considered as

long term growth is determined by technological aspect. On the other hand, in absence of technological progression the output per capita will converge to steady level.

The conclusion of Neoclassical growth theory is that if the two countries that the same rate of saving and same rate of population growth rate and has access to the same technology, their levels of per capita income will eventually converge that is they will ultimately be equal. The context of the study noted as worthy and it is believed that poor countries stuck in their death trap and becomes poorer as they have low capital but on the other hand if they increase their savings as the similar to rich countries with similar type of technological access, they will be expected to reach the required standard of output with higher capita and progress (Dornbush., 1989).

2.3.1 Foreign Direct Investment and Economic Growth Globally

The literature has discussed the role of foreign direct investment towards the global economic growth of countries, and inclined investments from foreign resources enhance the growth rate by improving the productivity and through efficient utilization of resources to gain benefits at large scale. The literature also states that empirically verifiable studies are not unanimous. However, among developed counties the studies have found that there are empirical evidences of relationship between investments and economic growth at domestic firms by inclined productivity (Globeram, 1979; Imbriani and Reganeti, 1997). But contrary to developed counties; under developed countries depicted unclear results, but few positive overlap findings are evident as described by the studies of (Blomstrom, 1986; Kokko, 1994) and others such as (Atiken et al., 1997). Further, the research scholars have reported limited evidence of above stated

phenomenon. Various other scholars reported that there is no evidence of such phenomenon among developing countries, and not evidence has been observed about spillover from external investors such as firms. The forward and backward linkages may cause of these unclear and diverse findings and mixed results or missing links may be one of the reasons (Atiken et al.; 1997). The productivity has increased and encouraged to be higher among transactional companies due to highly competitive circumstances and may not be true practically (Atiken et al.; 1997). The other reasons includes the fact of transactional firms found to be among highly productive sector, therefore, it is huge challenge for less productive firms to survive in highly competitive business environment (Smarzynska, 2002). According to Jelilov, Gylych; Musa, Muhammad; 2016). They postulate that crowded industry among domestic sector possible influence the contraction in employment and industry overall.

However, crowded industry found to be rare around the world, therefore benefits of FDI brings promotions and remains controversial due to dependency on investments (World Bank, 1998). The literature has stated diverse opinion about under discussed topic of economic growth, but consensus appeared in relation to FDI spillover towards the host nation's capacity for absorbing the technology and investment type along with the climate of the industry and sector (Jelilov, Gylych; Abdulrahman, Samira; Isik, Abdurahman;, 2015).

The review of literature demonstrated that scholars have paid much attention towards the debate on FDI and its impact on economic activities by uplifting the growth scale. The crucial this is to focus for examining the role of FDI and impact of FDI on economic growth largely depends upon the country specific factors, the impact of FDI on economic

growth may be observed as positive, negative or observed as no association or influence over economic conditions due to FDI, other factors appeared in literature including institutional factors, technological factors among recipients. Most of the studies conducted on the phenomenon cross boundary evidences, but the impact and role of FDI are believed to be country specific factors. But there is lack of empirical evidences on country related studies to examine the impact of FDI on economic growth, therefore, most of the questions takes place and rises from the discussion needed to be answered. Finally, the macro factors of economic conditions affect the relationship and influence and affect of Foreign Direct Investment on growth of economical indicators. In fact, research scholars have declared that the scale of FDI and involvement of investors contribute in growth aspect but also influenced by social factors and in-short social conditions including environmental factors of host countries (Zhang., 2001). In nutshell, the influence and impact of FDI on economic growth may be based on factors related to country. So, there is dire need to identify the country specific studies to examine the phenomenon at large scale.

2.4 Empirical Review

Many studies have been done related to this topic; FDI and its impact on the Nigerian Economic growth: var model analysis; that have been undertaken by different scholars and in different countries over the years. These papers are empirically reviewed below.

The research scholars in their previous studies examined and analysis relation among foreign direct investment and growth of country on economical aspects in Nigerian context and literature states that there are inconclusive results in relation to country

specific factors. The research scholars have found and stated that inflow of investment due to FDI found to be effective in boosting the economical and business activities and improve the overall economic condition of regions Lall., 2002. The review of literature have depicted that relationship and impact of FDI on economic growth are conclusive.

The other research scholars have investigated the role of FDI on Nigerian economy conducted by Olokoyo (2012). The study was good attempt to uncover the link and relationship between FDI and economic conditions in Nigerian context, and explained the phenomenon of FDI in terms of its determinants and effect of these determinants on economic conditions of Nigeria. The use of OLS (ordinary least square) technique the regression test was examined on time-series data from 1970 to 2007. The autocorrelation was also examined in the study through the use of Cochrane-Orcutt iterative method. The model of the study was hypothesized and functional relationship was investigated and tested between development of Nigerian GDP and FDI. The results of the study depicted that regression examination of study did not provide any support for view point of robust association between FDI and economic growth of Nigerian economy, the study suggested extending the investigation to consider other factors to determine the relationship between FDI and economic growth. The results of the study may shows that there is not link but it doesn't disregard the significance of Foreign Direct Investment, the analysis of model reduced the level of confidence in belief that FDI determine the effect of growing economy of Nigeria.

The positive influence of FDI can be found through country related factors, it may depict negative results in some economies and some economies produce insignificant results as country specific factors makes the difference, the economical situations, institutional and

technological scenario of host countries bring change to the results. Solomon and Eka (2013) investigated the empirical relationship of FDI on economic strength of Nigeria. The previous research conducted during 1981 to 2009 by using Central Bank's data of Nigeria. The relationship was examined by utilization of Ordinary Least Square method to investigate the type of link between FDI and its influence on economic conditions. The results produced by OLS techniques depicted positive significant influence of FDI on economic stability of Nigeria under the specific period of study.

The causal relationship among foreign direct investment and economic growth has been examined by various research scholars by using time-series data consists of 1969 to year 2000 for different countries including Chile, Malaysia, Thailand, Chowdhury and Mavrotas (2006). The different test was examined such as Toda & Yamamoto to examine the relationship, the findings of study depicted that gross domestic products influences the foreign direct investment in Chile context but not vice versa, contrary, strong link and empirical evidence has been observed in case of Malaysia and Thailand.

The other research scholars have explained the role of FDI as crucial and important for growth and stability of economic growth in global market. The new markets are tapped and new marketing channels are formed with cheaper access and efficient facilities with involvement of technology based products, required higher performing skills, and financial aspect of target country as potential new investment. The host country may provide better basis for technological advanced sources, better financial indicators and better procedures, technologies of organizations, effective HR skills found to be positively influence the stable economic conditions of the country (Alejandro 2010).

Another study conducted for the same under discussed purpose to investigate the relation between foreign investment and economic stability during the time slot of 1990 to 1997 about 85 different countries. The positive significant influence was observed on economic stability and growth by effective foreign direct investment (Zhang and Ram 2002).

Another study conducted to investigate the similar issue and data was collected from 72 different developed and developing nations to examine the relationship of FDI and economy, during the time slot of 1960 to 1995. Both studies utilized the OLS and GMM for analysis the data collected from different nations (Carkovic and Levine, 2002). The findings depicted that FDI do not influence the economic stability of growth, therefore the study found and stated that there is no statistical association between FDI and economic situation or stability of growth of the nation among 72 developed and developing countries.

The study of Alfaro, Chanda, Kalemli-Ozcan and Sayek (2002) conducted to examine the influence of FDI on economic situations, by comparing two different samples. The sample 1 was consists of 20 different counties of OECD and 51 non-OECD nations and data was examined to assess the relationship was taken from the time slot of 1975 to 1995; but the sample 2 was consisted on 20 OECD nations and 29 non-OECD countries and data was collected from 16 years which consists of 1980 to 1995 and data was examined by utilization of OLS method. The conclusion of study was very interesting they depicted that FDI found to be ambiguous and effect the economical indicators but on the other hand, they stated that FDI produces benefits for economic growth among developed nations.

The study conducted to examine the type of relationship between FDI and economical situations of country and to examine the impact of FDI on economic stability by Zhang (2001), the study found that FDI influences the economic conditions by eliminating the negative payment balances and alleviate current account deficit. The technology adoption and technological transfers enhance the efficiency by inflow cash through FDI which influence the economic performance of country. The study conducted by Ewe-Ghee Lim (2001) to examine the link between FDI and its correlation with economical indicators of countries of any region and further conclusion of research stated that FDI influences the economical situation positively but there is no consensus on causes.

The importance of foreign direct investment was examined and discussed by various research scholars among various countries, but the study conducted by Otepola (2002) for examining the impact and affect of FDI on economy of Nigeria, the study was empirical in nature and conclusion was given as contribution of FDI was significantly towards economic conditions by enhancing the exports ration of the examined markets. Similarly, other studies were conducted on FDI that provided chance to examine the relationship between FDI and production sector to investigate the influence of FDI on exports among developing nations. The study depicted that various developing countries found to be effective for enhancing the exports of the countries (Ricardo, Hwang and Rodrick 2005). Various developing countries give importance to FDI for promoting the exports by enhancing the production capacity of domestic economy. Typically, investors form foreign counties build huge business setups to increase the business activity and increase the exports.

The study of Bende-Nabende (2002) found the long term influence of FDI as positively and significant among less developed countries on their economic performance, such as data was collected from Philippines and Thailand, the study examined the same relationship on Japan and Taiwan's sample and found that there is negative relation between FDI and its influences on economic stability and performance. Similarly, the studies conducted analysis between FDI and its influences and impact on Nigerian economic situations back in 1998 and found that private investment contributes for increase in GDP, as data was collected from 1970 to 1995.

The influence and impact of foreign investment was examined by the study of Saibu and Keke (2014) on economic situation of Nigerian economy based on time series data. The cointegration and error correction mechanism (ECM) techniques were utilized for analyzing the data to investigate the relation between FDI and economical situations and growth. The research conducted also depicted that investment from private investors influences the economic situation of country on long term basis. The study also indicated that specific portion of investment was not successfully invested and utilized for better productivity and on the other hand relatively low and small portion of foreign investment was invested appropriately to contribute for growth of economy of the nation. Further, research also found and stated that political environment plays significant and important role assessing positive impact of foreign investment and economical situations.

The other study also examined the foreign investment and trade to be influential towards economic stability and growth among under developing nations according to growth theories. The study was conducted by Makki and Somwaru (2004), on Nigerian context and data was collected from 66 developing nations as cross sectional data was collected

from three decades. The findings of the study found that FDI contribute for better trade and assist in boosting the economic conditions among developing nations, and measured as in important channel for adoption of latest technology and transfer the skills and knowledge to developing nations. The study of Adelegan (2000) explained and stated that FDI found to be effective for economic growth as regression analysis was taken down to assess the link and relations between said variables among Nigerian context. Similarly, negative contribution was examined by public investment to influence the GDP of Nigeria (Ogiogio 1995). Various other research scholars have found that foreign investment and loans directly influence the exports, the study of Oyinlola (1995) found that foreign investments always influential for enhancing the exports. The other research scholars concluded contradictory and stated that depressing influence and impact on the development of economy in context of Nigeria according to research scholars including (Chenery and Stout, 1966).

The research studies conducted by Balasubramanyan et al. (1996), reported that interaction among human capital and foreign investment. The study depicted significant and positive results that FDI found to be very important factor for economic boost and enhance the exports of country. The impact of FDI found to be varies from country to country and industry to industry that FDI and its influences may affect due to other factors.

The study conducted by Erawoke and Eshanake (2012) also examined the link and association among FDI and growth rate of economy in Nigerian context. The study utilized the analysis techniques including OLS and ADF unit root test, and found that FDI influences the economic activities. The study also stated that GDP don't receive any

influence due to FDI in Nigerian context. The study also recommended that government must take initiatives for enhancing the FDI ration as it successfully influence the business activity which is better for economical situation of nation. The government must device effective policies for attracting FDI to boost their economic conditions.

The various research scholars conducted studies to inspect the influence and effect from foreign inflow on economical condition and stability of nation, the empirical investigation depicted important results that FDI considered as influential towards purchase of technological advance equipment and transfer of technology, that contribute for rapid growth among domestic industry Borensztein, De Gregorio and Lee (1998). Similar studies have been conducted on various countries such as the study conducted to examine the same relationship and data was collected from 24 developing countries, the study depicted and stated positive results that FDI influences the economic activity as they further explored that technology adoption take place through higher amount of FDI and productivity increases among various sectors by enrich their cash inflow and human capital Borensztein, De Gregorio and Lee (1998). The similar studies were conducted around the world, one study investigated the same relationship between FDI and economic growth and data was collected from India, the study found that influence of FDI found to be positive and significant on manufacturing sector but on the other hand no relationship was found and observed between FDI stock and service sector (Chakraborty and Nunenkamp 2008).

The study conducted by Oyatoye (2011) on FDI and exports link, and the investigation was also conducted to examine the link between FDI and economic situation among Nigerian firms. The research scholars of study examined and depicted that there is

possible relationship between FDI and economic stability and growth in Nigeria. The data was collected from Central bank of Nigeria covering 20 years of period from 1987 to 2006. The study examined the relationship through regression analysis and found that FDI positively influence the economic conditions of Nigeria, and it also influences the GDP. The study recommended to develop attractive policies for attracting more long term foreign direct investments. The study of Okon (2011) conducted the research on FDI and economic conditions and growth of Nigeria too, the study conducted the analysis on the data collected from time slot of 1970 to 2010 and found that FDI and economic growth had connection and they jointly determine the positive feedback and vice versa. The study also suggested developing the strategies for attracting the foreign direct investment at large scale.

The studies conducted by Barro, (1991); Barrel and Pam (1997) to determine the influence of FDI on economic cycle of nation while considering the diffusion of technology and found that FDI influence the usage of technology based systems to gain competitive advantages and leads towards technological progression (Balasubramanyam et al., 1996; Borensztem et al., 1998). The study of Romer (1990) and Grossman and Helpman (1991) contributed in their studies by developing models of technology progress and causes economic activity. The study found that FDI increase the economic activity and accelerate the economical growth by strengthening the human capital as it found to be essential for research and development efforts. On the other hand, Grossman and Helpman (1991) focused to increase the competition through innovating capabilities and incorporate technology adoption and utilization for business processes to increase the productivity and enhance the economic performance.

In contrast to previous studies, as most of the studies found positive influences among FDI and economic growth, the study conducted to investigate the relations between FDI and economic stability and study was conducted by Reis (2001). The study found that FDI influences the research and development sector to introduce some innovative products to the markets. Due to huge investment by foreign investors it may cause decrease business activity in domestic market due to interest rate difference between domestic and international market. The higher interest rate at world level as compare to domestic interest rate, it will cause serious trouble for business activities and it may negatively influence the economic growth, further the research scholar added that if domestic interest rates are higher than world interest rate than the business activity will be boosted and will receive positive FDI influence over economic growth.

The study conducted by Firebaugh (1992) stated various reasons to less profitable FDI for domestic industry or even considered as damaging. So there is situation evident that a country may receive less benefit from FDI and less likely to contribute for economic growth but instead found to be damaging. The huge investment from foreign investors many encourage local entrepreneurs to establish own business with capital inflow and inappropriate usage of financial resources may cause negative effects on economy.

In nutshell, UNCTAD (1999) stated that various studies have been conducted to examine the relationship and affect of FDI on economic growth of various nations, the studies found mixed results that either FDI has positive and negative influences over economic growth, as it is evident that this happened due to country specific factors. These country related factors entails initial per capita, gross domestic product, educational trend and attainment, ration of domestic investments, political stable environment and government,

trade policies, market control and rules and regulations for economic development. Research has shown the gap that there are other variables that exist in environment to influence the FDI and economic growth. The research scholar Olfsdoter (1988) found and stated that FDI produces benefits for those higher capable nations with higher quality of institutional stability and capability. The emphasize of the study was on importance of ideas that attract and enable foreign direct investments.

2.5 Gaps in the Literature

The issue of FDI and the role of FDI in growth of economic activity and conditions of nation have been investigated by various scholars on diverse countries in previous studies including developed and under developed nations by considering the gross domestic products and inflation rate. However, this study adds exchange rate and economic growth as proxy for GDP. The current study contributes to the body of knowledge and expands to access the usage of exchange rate as independent variables because of the potential implication it has on FDI. The previous studies have depicted and stated that fluctuation in exchange rate caused reduction in wage rate average and affect the production cost as compare to foreigner competitors.

This study updated the data of previous studies. While most of the works looked into stopped before 2013, 2014 and 2016 but the researcher has made efforts to increase the work to 2017 where this study's time frame stops. Also, the tools of analysis in this study are Granger Causality, Impulse Response, Unit Roots Test, Variance Decomposition, Cointegration; while previous studies used VECM (Vector Error Correction Mechanism), OLS (Ordinary Least Squares) etc.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

The set of methods and processes for collection of data for analysis; by measuring the specific variables in a relation to address the problem is known as research design. Current study adopted the case study approach to provide the deep understanding of problem and address the more specific issues related to the problems faced by countries in order to maintain the appropriate utilization of FDI for economic growth. In this case, Nigeria is chosen by the researcher of the study. In the method of data analysis, Granger-Causality Test, Unit Root Test, Variance Decomposition, Impulse Response test and Regression analysis were used to investigation of relationship with FDI and economic growth of Nigerian economy. Also, the linear relationship of the dependent and independent variables is tested to show if they are significant or not.

The present study entails the secondary data for analysis. The data for FDI, economic growth, exchange rate, interest rate and oil price were fetched from the documents published by World Bank development indicators on Developing Countries. Inferential statistic method is used to investigate the impact of FDI on economic growth, exchange rate, interest rate and oil price respectively. Analysis using E-Views 9.0 was done to see how FDI impacts on the Nigerian economy. Data can be divided into two types, namely: Primary data and Secondary data. Primary data are sourced from the field directly that is, one-on-on interviews and interactions, while secondary data are sourced from publications or organizations that have acquired and stored them.

3.2 Model Specification

The model used in this study is adapted from Akiri, Vehe, and Ijuo (2015), they wrote on "Foreign Direct Investment and Economic Growth in Nigeria". Here is the original model of Akiri et al (2016)

$GDP = \beta_0 + \beta_1 FDI + \beta_2 GCE + \beta_3 EXR + \beta_4 IR + U$..... 3.1

In modifying the equation 3.1, the researcher introduced log in the equation to improve the linearity of the equation (3.1) to suit the studies objectives and also used FDI as the dependent variable.

$In\text{-}FDI_t = \alpha_0 + \alpha_1 In\text{-}ECGT_t + \alpha_2 In\text{-}EXCHR_t + \alpha_3 In\text{-}INTR_t + \alpha_4 In\text{-}OILPt + V_t$……..

3.2

Where,

FDI = Foreign Direct Investment

ECGT = Economic Growth

EXCHR = Exchange Rate

INTR = Interest Rate

OILP = Oil price

α_0 = Intercept

$\alpha_1 - \alpha_3$ = Other parameters to be estimated. They are impacts of each of the independent variables on the dependent variable.

V_t is error term that is supposed to satisfy the usual econometric assumption. These are stochastic component representing all other variables that affect foreign direct investment (FDI) aside economic growth, exchange rate, interest rate and oil price. Again Vector autoregression is a stochastic process model used in this study to capture the linear

interdependencies among multiple series. Furthermore, VAR models generalize the univariate autoregressive_model (AR model) by allowing for more than one evolving variable. All variables in a VAR enter the model in the same way: each variable has an equation explaining its evolution based on its own lagged_values, the lagged values of the other model variables, and an error_term. Mathematically, a vector autoregressive model (VAR) model of lag order 1 is written below:

$$\mathbf{Y_x = a_{10} + a_2\, y_{t-11} + a_3 x_{t-12} + e_{1t}}$$

$$\mathbf{X_t = a_{20} + a_{21} y_{t-1} + a_{22} x_{t-1} + e_{2t}}$$

The main objective of vector autoregressive (VAR) model in this study is:

1. To come up with examination and assessment of relationship type between FDI and development of economy.
2. To know if there is any significant impact from the shocks. This is when the variance decomposition comes in.

Furthermore, we will need to state equation (3.2) in VAR form, hence we have;

$ECGT_{t,1} = \alpha_1 + \Phi_{11}FDI_{t-1,1} + \Phi_{12}EXCHR_{t-1,2} + \Phi_{13}INTR_{t-1,3} + \Phi_{14}OILP_{t-1,4} + V_{t,1}$ …… (3.2.1)

$FDI_{t,2} = \alpha_2 + \Phi_{21}ECGT_{t-1,1} + \Phi_{22}EXCH\ R_{t-1,2} + \Phi_{23}INTR_{t-1,3} + \Phi_{24}OILP_{t-1,4} + V_{t,2}$…. (3.2.2)

$EXCHR_{t,3} = \alpha_3 + \Phi_{31}ECGT_{t-1,1} + \Phi_{32}FDI_{t-1,2} + \Phi_{33}INTR_{t-1,3} + \Phi_{34}OILP_{t-1,4} + V_{t,3}$ …. (3.2.3)

$INTR_{t,4} = \alpha_4 + \Phi_{41}ECGT_{t-1,1} + \Phi_{42}FDI_{t-1,2} + \Phi_{43}EXCHR_{t-1,3} + \Phi_{44}OILP_{t-1,4} + V_{t,4}$ …..(3.2.4)

$OILPt_{,5} = \alpha_5 + \Phi_{51}ECGTt\text{-}_{1,1} + \Phi_{52}FDIt\text{-}_{1,2} + \Phi_{53}EXCHt\text{-}_{1,3} + \Phi_{54}INTRt\text{-}_{1,4} + Vt_{,5}$….(3.2.5)

Hence, the four equations above are vector autoregressive model of order 1, denoted as VAR (1). Each variable is a linear function of lag 1 values for all variables in the set.

3.3 Data Analysis Techniques

As it has been discussed earlier in previous phase the time series secondary data was utilized for analysis purposes, the data for current study was taken from World Bank under specific time series for investigation the influence and impact of FDI on the economy of Nigeria. Thus, the present study is quantitative in nature and developed on the base of previous research design and methodologies to conduct the present research. The Statistical techniques used are Augmented Dickey-Fuller Unit root test (Dickey and Fuller, 1981) used to test for the stationarity of the variables. Pairwise Granger-causality tests were conducted to see if there was one-way causality, dual causality or no causality among the variables.

Co-integration test suggests that there is long-run or equilibrium relationship among variables despite their non-stationarity. Variance decomposition is obtained from a VAR model; it is used to identify the contribution of each independent variable in explaining variations of the dependent variable in the model. For our data analysis in this research work, we are using a VAR model to capture the linear interdependencies among the variables (FDI, ECGT, EXCHR, INTR and OILP). The utilization of these models assist in avoiding various issues and challenges to crop up, on the other hand qualitative studies are suitable for utilization in econometric research designs. These challenges included the subjective issues and biased responses and challenges to incorporation of this biasness in econometric models. All of these tests were done using E-views 9.0.

3.4 Evaluation Criteria

3.4.1 Unit Root Test

Research scholars and gurus have given guidelines to deal with time series secondary data and have been suggested to take care of number of econometric issues. These issues may be related to the usage of Ordinary Least Square techniques. The present study entails the time series technique for analyzing the data and regression analysis was conducted for analysis purpose. The estimation of OLS can be examined on the basis of R^2 ; during the examination it may be found that the relationship among the variables is not significant and do not produce any useful meaning. This will occur as one of crucial problem to in investigation of regression test between the variables of the study. Therefore, research scholars have suggested that stationarity must be examined for testing the order of integration.

Research scholars have defined that stochastic is a process of examining the relationship that has to be stationary and imply the mean [(E(Yt)] and the variance of the variables denoted as [Var(Yt)]; in the equation Y will remain constant for the study period. But the covariance [covar(Yt, Ys)] and further the correlation among two different variables of the same study will take the value of Y from specific period of time that depends on difference between the time slot and the value of $t \neq s$; (Thomas 1993). The analysis of regression for time series data must be stationary, for taking the test or examining the regression analysis it is required to determine that time series data must be stationary. The test for said purpose Augmented Dickey-Fuller (ADF) have been utilized. The said

test examine the regression of first difference for series against value, constant and time as described as under: The equations without interception and trend

$\Delta Y_t = \delta Y_{t-1} + U_t$ ……3.3

While including Intercept $\Delta Y_t = \alpha + \delta Y_{t-1} + U_t$…….…….. 3.4

While without Intercept and Trend $\Delta Y_t = \alpha + \beta T + \delta Y_{t-1} + U_t$…….…….. 3.5

Meanwhile, the Hypotheses of the study were:

H_o: $\delta = 0$ (Unit Root)

H_1: $\delta \neq 0$

Rule for decisions:

If t* > ADF critical value, unit root found and null hypothesis cannot be rejected

If t* < ADF critical value, unit root not found so that null hypothesis must be rejected

Unit root testing took place on the coefficient denoted as (Yt-1) for regression. The test named as ADF also called t-statistics found to be less in absolute value as compare to Mackinnon critical t-values. So that null hypothesis can never be rejected as unit root can't be ignored for time series. Hence, it can be concluded that series is non-stationary for their levels.

The test of unit root to examine the presence of unit root in cases: the terms named and examined on the basis of with and without intercept and trend; for taking into consideration to examine the influence and effect of trend on series.

3.4.2 Cointegration Using Johansen Test

The main objective of cointegration test in this study is to identify stable, long run relationship sets of variables. Cointegration methods have been very popular tools in

applied economic work since their introduction about twenty years ago. However, the strict unit-root assumption that these methods typically rely upon is often not easy to justify on economic or theoretical grounds.

The Johansen (1988) test was used to test for the long run relationship between the variables to identify the number of cointegrating vectors. The time-series cointegrating relationship was therefore specified as:

$FDI_t = \alpha + B_1(ECGT)_t + B_2(EXCHR)_t + B_3(INTR)_t + B_4(OILP)t \quad \mu_t$

……3.6

According to the deep illustration of above stated material, it has been observed that Unit Root processes entails the various different variables including economic growth, rate of interest, rate of currency exchange and prices of oil appear to inclined frequently which modeled as unit root processes. It is believed that each variable discussed in present study has its own exact unit root rather than root closer to the unity. The above stated variables may occur with sign of mean reversion for long samples. The discussion on the relationship of these variables have been discussed previously by various scholars including Malley & Moutos (1996), Jonsson (2001), Cardoso (1998), Wallace and Warner (1993), Khamis and Leone (2001) and Bagchi et al (2004).

It has been observed that unit-root test found to be with limited power in distinguishing among unit-root and close alternative, the assumption of pure unit-root normally based on convenience as compare to theoretical or empirical facts and figures. Due to this reason various economists and econometricians believed on near-integrated processes, and that reason leads them for allowing small or unknown deviations from the assumption of pure

unit root, for more appropriate description on time series economies, for example the studies of Stock (1991), Cavanagh et al. (1995) and Elliott (1998).

The studies have been conducted before and the findings depicted that if the time series data is according to macro time series it may contain unit root that encouraged the development and formation of theory of non-stationary time series analysis. The research scholars have mentioned that stationary series are stationary, for instance such stationary linear combination found, so that the non-stationary time series data will be said as combination and it called the run equilibrium relation among variables of the study Engle and Granger (1987). On other note an in nutshell, for examining the long term relation or short term relationship among variables the stable and non-spurious co-integrated relationship are formed as stated by Miguel (2000). In the present study, the prime objective was to determine that the variables including FDI, EXHR, ECGT, INTR and OILP have bind in long term association or relationship in bivariate framework.

3.4.3 Granger Causality Test

Granger Causality test was conducted in present study for the purpose of determining the connection, relationship and causality between the variables of the study by researcher. Further, the Granger Causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. Clive Granger argued that causality in economics could be tested for by measuring the ability to predict the future values of a time series using prior values of another time series. The steps involved

in testing for the direction of causality between two economic series say, Y_t and X_t are as follows:

1. Regress current Y_t on all past values Y_t and other variables, but do not include the lagged X_t variables in this regression. Hence, from this regression, obtain the residual sum of squares.

2. Now run the regression including the lagged X_t variable (unrestricted regression). From this regression, obtain the unrestricted residual sum of squares (RSS_{UR})

3. Test the null hypothesis H_o: i.e. lagged X_t terms do not belong in the regression.

4. To test this hypothesis, we applied the F-test given by; F-distribution.

This follows the F-distribution with M and N-K degrees of freedom. M is the number of lagged X_t terms and K is the number of parameters of parameters estimated in the restricted regression.

5. If the F-value exceeds the critical F-values at the chosen level of significance, or if the P-value is less than the alpha level of significance, we reject the null hypothesis in which case the lagged X_t values belong in the regression. This is another way of saying that X_t Granger causes Y_t.

6. Step 1-5 can be repeated to test model (2) i.e. to test whether Y_t Granger causes X_t

3.4.4 Impulse Response

An impulse response equation G_i is given:

$$\sum_{j=0}^{\infty} G^j L^j = (1 - \sum_{i=1}^{n} \rho_i L^i)^{-1} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3.5)$$

From the above equations and restrictions, the structural shocks can be recovered as linear combinations of reduced-form innovations which can be used to compute the correlation of the shocks between the variables and assess the degree of asymmetry between them.

The objective of impulse response in this study is:

i. To describes the evolution of variables of interest along a specified time horizon after a given shock in a given moment.
ii. To explain the reaction of an endogenous variable to one of the innovations.
iii. To track the impact of a variable on the other variable in the system.
iv. To trace the effects on present and future values of the endogenous variables of one standard deviation shock to one of the innovations.
v. To explain the concept of "pass through", the degree at which the changes in variable are passed to other variables at different stages either directly or indirectly.

3.4.5 Variance Decomposition

Variance decomposition will be used to identify the contribution of each independent variable in explaining variations of the dependent variable in the model. It shows the proportion of fluctuation in the dependent variables due to variables' own shocks to other variables.

The objective of variance decomposition in this study is:

i. To identify the contribution of each independent variable in explaining variation of the dependent variable in the model.

ii. To indicate the amount of information each variable contributes to the other variable.

iii. To also show the proportion of fluctuation in the dependent variables due to variables own shocks to other variables.

3.4.6 Description of Variables

Investments from Foreign nations or FDI: FDI attractive destinations pull the investment from all large investors around the world for boosting their economies and to gain financial long term benefits. Foreign direct investments are initiated and invested by large MNCs or individuals from any country around the world for initiate business activities in home country, therefore developing countries seek investments from large MNCs and individuals to boost their economy and develop policies to attract the investment around the world. FDI takes place as result of investment in any country which set up or extension of existing business to any other country across the border. FDI has clear distinction from portfolio investments that involves purchase of assets in foreign countries.

Economic Growth: economy of any country remains important and crucial and they seek for growth and stability by increasing business activities and bringing the opportunities for business establishment and employment generation. The research scholars have associated the economy grow indicators with increased marginal productivity, but it is not necessary all the time. The economic growth entails the increase in income of nation, inspiring the consumer for open their wallets and purchase more from businesses that leads to higher material quality and better living and life standards.

Exchange Rate: The setup business across the border and investment from or to across the boundary of home country involves many challenges and currency exchange rate is one of major challenge and task to face. The firms or individuals face exchange rate when then invest in other currency outside their home country or region. The exchange rate for example need to change the US $ to €; what will be the exchange rate? This considered one of the most important factors in investments. The exchange rates changes frequently based on their reserves and economic activity.

Interest rate: is known as the percentage of principal charged by the lender for the use of its money. The principal is the amount of the money lent. As a result, banks pay you an interest rate on deposits. They are borrowing that money from you.

Oil price: Oil Price refers to the spot price of one barrel of the benchmark crude oil. The price depends upon its grade, location and the content of sulfur present in it. The price of oil can be determined with the help of balance between its demand and supply. Oil storage trade is a strategy in which oil is purchased by the large oil companies when the prices are low for instant storage and delivery. These large oil companies then keep the oil stored till the prices rise.

3.4.6 Variable Measurement

The study examined the relationship between foreign direct investment on economy growth in Nigeria which the measurement for the variables are stated in the table 3.1 below:

Table 3.1
Variables Measurement

S/No.	Dependent variable	Measurement	Sources
	FDI	Foreign Direct Investment is measured in Million and Billion ($)	World bank development indicator (WDI)
	Independent Variables		
1.	ECGT	Economic Growth is measured in (USD)	World bank development indicator (WDI)
2.	EXCHR	Exchange Rate is measured in (USD)	World bank development indicator (WDI)
3.	INTR	Interest Rate is measured in (USD)	World bank development indicator (WDI)
4.	OILP	Oil price is measured in (USD)	World bank development indicator (WDI)

Source: Author's Compilation, 2019.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.1 Data Presentation

Appendix 1 by the end of study demonstrated the macroeconomic data used to conduct the study and analysis. It consists of Foreign Direct Investment (FDI), Economic Growth (ECGT), Interest rate (INTR), Exchange rate (EXCHR) and oil price (OILP) for the period of 1985-2017.

4.2 Data Analysis

Tables and regression were used to analyze the data on foreign direct investment (FDI), economic growth (ECGT), exchange rate (EXCHR), interest rate (INTR) and oil price (OILP). Here the data was taken from 1985 to 2017. Series of tests were conducted in the study ranging from simple diagnosis tests to causality tests.

4.2.1 Unit Root (Stationarity) Test

Table 4.1
Unit Root Test Results (Using Augmented Dickey-Fuller Method)

TIME SERIES	ADF STATISTICS	CRITICAL VALUE	STATIONARY STATUS	PROBABILITY
		-4.296729 (1%)		0.0000
FDI	-7.513640	-3.568379 (5%)	1(1)	
		-3.218582 (10%)		
		-4.284580 (1%)		0.0052
ECGT	-4.559330	-3.562882 (5%)	1(0)	
		-3.215267 (10%)		
		-4.296729 (1%)		0.0381
EXCHR	-3.697738	-3.568379 (5%)	1(1)	
		-3.215267 (10%)		

		-4.284580 (1%)		
INTR	-6.120813	-3.562882 (5%)	1(0)	0.0001
		-3.215267 (10%)		
OILP	-2.913874	-3.67322 (1%)		
		-2.967767 (5%)	1(0)	0.0560
		-2.622989 (10%)		

Source: Author's Computation Using E-View 9.0 version.

The time series data FDI (Foreign Direct Investment), ECGT (Economic Growth), EXCH (Exchange Rate), INTR (Interest Rate) and OILP (OIL PRICE) were put through the process of stationarity tests using the Augmented Dickey Fuller (ADF) test. All of them (EXCHR, INTR and OILP) were stationary at levels except for EXCH and FDI which was stationary after the first difference. ECGT has a prob. Value of 0.0052 while FDI, EXCHR, INTR and OILP have prob. Value of 0.0000, 0.0381, 0.0001 and 0.0560 respectively. Considering the critical values and ADF statistics all the variables were stationarity at 1%, except EXCHR which was stationary at 5%.

4.2.2 Co-Integration Test Using Johansen

The study based on time series data so that various time series were integrated at level except for FDI of the first order, the second step in testing the relationship between FDI, ECGT, EXCHR, INTR and OILP is to test for the co-integration relationship between the variables, in order to determine if there is a long-run relationship between the variables. The test for the long-run relationship between both variables was done using Johansen co-integration test.

The appendix (vi) of the study demonstrated the output reports of research, the results of co-integration, and the table depicted best results by showing two co-integrating equation

at 1% and 5% level of significance. This depicts that there is long term relationship exists between the constructs of the study. So that, it is believed that the long run steady state relationships among different variables found including FDI, EXCHR, ECGT, INTR and OILP in Nigerian context. After the establishment of the relationship of co-integration among variables of the study, it is concluded long term relationship has been identified between them even in non-stationary state. Further, the trace statistics or ratios are higher than critical values, so it can be concluded that co-integration exists.

4.2.3 Granger-Causality Test

The present study used below probability values, it can be seen one variable granger causes another. It is very clear that virtually all these variables pairs do not granger cause each other. So, they are insignificant, hence they should be rejected. But few pairs:

Table 4.2
Granger-Causality Test Result

Null Hypothesis:	Obs	F-Statistic	Prob.
ECGT does not Granger Cause FDI	31	0.62957	0.5407
FDI does not Granger Cause ECGT		9.76312	0.0007
EXCH does not Granger Cause FDI	27	2.81830	0.0813
FDI does not Granger Cause EXCH		0.06737	0.9350
INTR does not Granger Cause FDI	31	0.42570	0.6578
FDI does not Granger Cause INTR		0.97518	0.3905
OILP does not Granger Cause FDI	28	0.42566	0.6584
FDI does not Granger Cause OILP		3.03402	0.0677
EXCH does not Granger Cause ECGT	27	4.82618	0.0183
ECGT does not Granger Cause EXCH		0.04117	0.9597
INTR does not Granger Cause ECGT	31	0.33465	0.7186
ECGT does not Granger Cause INTR		3.06163	0.0640
OILP does not Granger Cause ECGT	28	0.41637	0.6643

ECGT does not Granger Cause OILP		3.65143	0.0420
INTR does not Granger Cause EXCH	27	3.71595	0.0407
EXCH does not Granger Cause INTR		1.39890	0.2680
OILP does not Granger Cause EXCH	27	0.75635	0.4812
EXCH does not Granger Cause OILP		1.48575	0.2482
OILP does not Granger Cause INTR	28	4.83330	0.0177
INTR does not Granger Cause OILP		1.13586	0.3385

Pairwise Granger Causality Tests
Date: 07/15/19 Time: 04:49
Sample: 1985 2017
Lags: 2

Source: Author's Computation Using E-View 9.0 version.

FDI does not granger cause ECGT with prob. Value 0.0007 is significant at 1% and should be rejected and accept the alternative hypothesis. Thus, this means that FDI actually granger causes ECGT. Foreign direct investment causes change in economic growth. Furthermore, EXCHR does not granger causes FDI. This was found to be statistically significant at 10% with p-value of 0.0813 and should be accepted. Thus, exchange rate causes changes in foreign direct investment.

FDI does not granger causes OILP. This was found to be statistically significant at 10% with p-value of 0.0672 and should be accepted. Thus, foreign direct investment causes changes in oil price. Furthermore, EXCHR does not granger causes ECGT. This was found to be statistically significant at 5% with p-value of 0.0183 and should be accepted. Thus, exchange rate causes changes in economic growth.

ECGT does not granger causes INTR. This was found to be statistically significant at 10% with p-value of 0.0640 and should be accepted. Thus, economic growth causes changes in interest rate. Furthermore, ECGT does not granger causes OILP. This was found to be statistically significant at less than 5% with p-value of 0.0420 and should be

rejected and accept the alternative hypothesis. Thus, economic growth causes changes in oil price.

INTR does not granger causes EXCH. This was found to be statistically significant at less than 5% with p-value of 0.0407 and should be rejected and accept the alternative hypothesis. Thus, interest rate causes changes in exchange rate. Lastly, OILP does not granger causes INTR. This was found to be statistically significant at less than 5% with p-value of 0.0177 and should be rejected and accept the alternative. Thus, oil price causes changes in interest rate.

4.2.4 Vector Autoregression (VAR)

Var estimates are simply OLS estimates and when interpreting it we give it just the ceteris paribus interpretation we give to any OLS result. Using the regression table, the interpretation is giving below:

Table 4.3
Vector Autoregression Result

	FDI	ECGT	EXCH	INTR	OILP
FDI(-1)	0.390760	-4.532017	6.78E-09	1.14E-09	1.58E-11
	(0.34067)	(6.13876)	(3.5E-09)	(2.8E-09)	(1.5E-09)
	[1.14704]	[-0.73826]	[1.96196]	[0.40142]	[0.01082]
FDI(-2)	0.284942	0.055780	1.07E-10	1.91E-10	4.72E-11
	(0.33948)	(6.11732)	(3.4E-09)	(2.8E-09)	(1.5E-09)
	[0.83935]	[0.00912]	[0.03103]	[0.06726]	[0.03247]
ECGT(-1)	0.020826	0.698216	-2.76E-11	9.25E-11	-4.92E-11
	(0.01408)	(0.25374)	(1.4E-10)	(1.2E-10)	(6.0E-11)
	[1.47897]	[2.75170]	[-0.19292]	[0.78736]	[-0.81599]
ECGT(-2)	-0.021840	0.431901	-1.68E-10	-1.29E-10	2.45E-11
	(0.01583)	(0.28520)	(1.6E-10)	(1.3E-10)	(6.8E-11)
	[-1.37993]	[1.51440]	[-1.04653]	[-0.97534]	[0.36206]

EXCH(-1)	3466346.	3.62E+08	0.374956	-0.178878	-0.069291
	(2.4E+07)	(4.3E+08)	(0.24022)	(0.19760)	(0.10137)
	[0.14637]	[0.84769]	[1.56086]	[-0.90523]	[-0.68355]
EXCH(-2)	6108541.	97355500	0.431038	0.134071	0.077187
	(2.3E+07)	(4.2E+08)	(0.23661)	(0.19463)	(0.09984)
	[0.26189]	[0.23163]	[1.82173]	[0.68885]	[0.77308]
INTR(-1)	-5387290.	-50613665	1.227200	0.498308	0.001857
	(3.7E+07)	(6.6E+08)	(0.37361)	(0.30732)	(0.15765)
	[-0.14627]	[-0.07626]	[3.28472]	[1.62144]	[0.01178]
INTR(-2)	6425561.	-9.68E+08	0.970426	0.277338	0.060891
	(3.7E+07)	(6.7E+08)	(0.37717)	(0.31026)	(0.15916)
	[0.17281]	[-1.44493]	[2.57289]	[0.89390]	[0.38258]
OILP(-1)	49365175	-2.07E+08	-2.899154	-0.535561	0.317022
	(8.5E+07)	(1.5E+09)	(0.86099)	(0.70823)	(0.36332)
	[0.58161]	[-0.13539]	[-3.36725]	[-0.75619]	[0.87258]
OILP(-2)	23619823	1.51E+09	-0.199013	-1.287984	-0.424700
	(7.5E+07)	(1.4E+09)	(0.76326)	(0.62784)	(0.32208)
	[0.31391]	[1.11183]	[-0.26074]	[-2.05144]	[-1.31862]
C	-8.85E+08	-3.50E+10	72.55790	30.89925	18.73818
	(2.3E+09)	(4.1E+10)	(23.1197)	(19.0179)	(9.75598)
	[-0.38819]	[-0.85275]	[3.13836]	[1.62475]	[1.92069]
R-squared	0.851634	0.987178	0.975497	0.499989	0.470812
Adj. R-squared	0.758905	0.979165	0.960182	0.187481	0.140069
Sum sq. resids	2.27E+19	7.37E+21	2334.900	1579.895	415.7643
S.E. equation	1.19E+09	2.15E+10	12.08020	9.936972	5.097575
F-statistic	9.184130	123.1883	63.69762	1.599927	1.423499
Log likelihood	-595.4923	-673.5619	-98.51982	-93.24657	-75.22414
Akaike AIC	44.92536	50.70829	8.112579	7.721968	6.386973
Schwarz SC	45.45329	51.23622	8.640513	8.249902	6.914907
Mean dependent	2.63E+09	1.54E+11	79.39862	1.165188	13.68554
S.D. dependent	2.43E+09	1.49E+11	60.53913	11.02396	5.497077

Determinant resid covariance (dof adj.)	5.91E+43
Determinant resid covariance	4.32E+42
Log likelihood	-1516.866
Akaike information criterion	116.4345
Schwarz criterion	119.0742

Vector Autoregression Estimates Date: 07/15/19 Time: 04:58; Sample (adjusted): 1987 2013
Included observations: 27 after adjustments; Standard errors in ( ) & t-statistics in [ ]

Source: Author's Computation Using E-View 9.0 version.

The past realization of FDI is associated with 39.07% increase in FDI on average all things being equal (ceteris paribus). A percentage increase in economic growth (ECGT) account for 2.08% increase in FDI on average all things being equal (ceteris paribus). The past realization of EXCH associated with 37.49% increase in EXCH on average all things being equal (ceteris paribus). The past realization of INTR associated with 22.72% increase in INTR on average all things being equal (ceteris paribus). A percentage increase in oil price (OILP) account for -2.80% decrease in FDI on average all things being equal (ceteris paribus).

4.2.5 Impulse Response Test

Impulse is an unexpected shock on an economic variable, the reaction of another economic variable to the impulse is referred to as response. Panel 1 represents FDI, panel 2 represents ECGT; panel 3 represents EXCHR, panel 4 represents INTR and panel 5 represents OILP. Impulse Response Function (IRF) is graphical representation for five periods. The interpretation of the graph will be analyzed based on the 1st column only, which is the vertical collection.

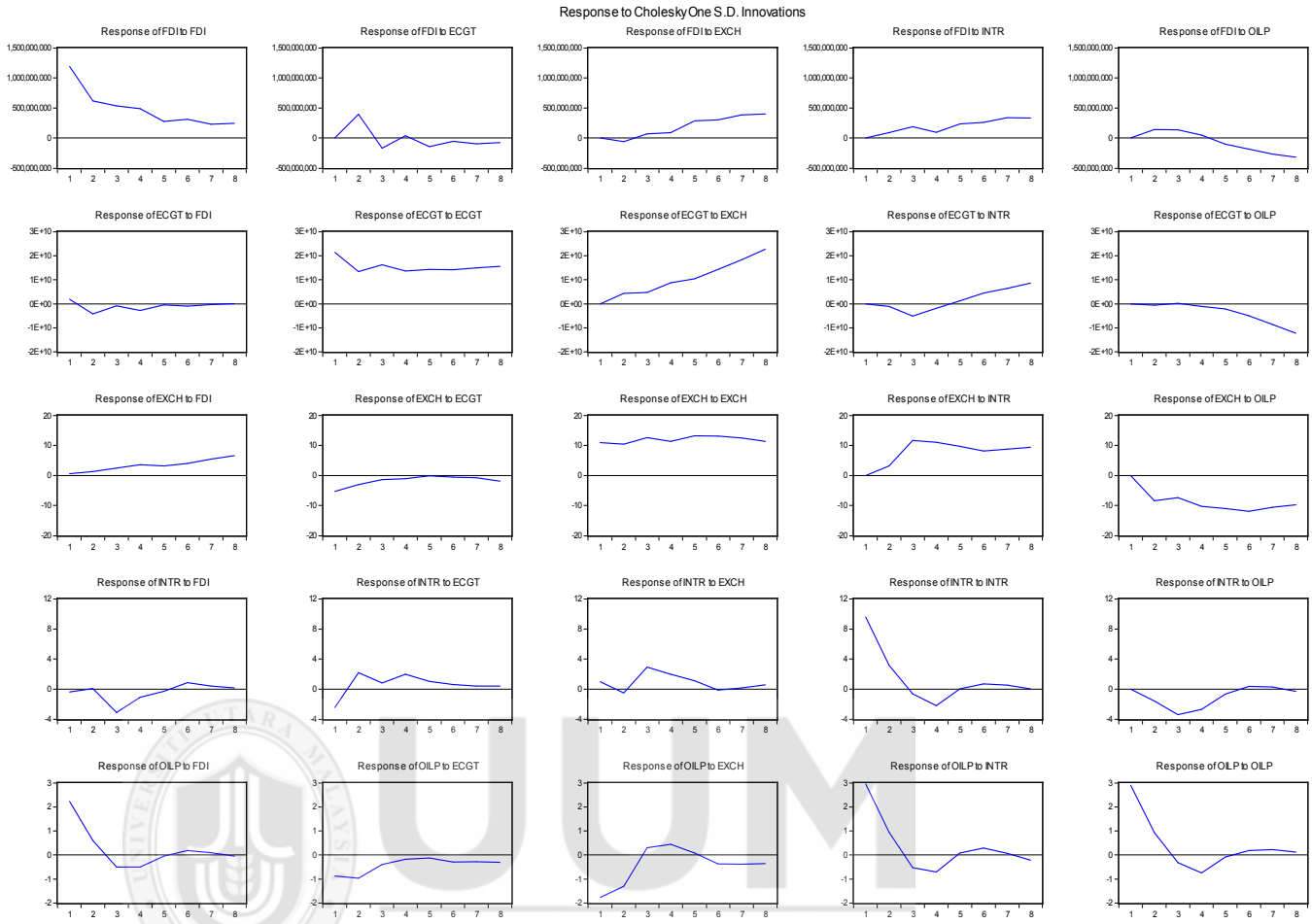

Figure 4.1
Impulse Response Graph
Source: Author's Computation Using E-View 9.0 version.

Figure 4.1 above shows the response of FDI to sudden changes in the independent variables.

Panel 2 shows that the response of ECGT to a shock in FDI; from the response of FDI to a shock in FDI initially has a noticeable impact on ECGT in period 1. From the 2 period the response gradually declined above its steady states value and remain positive in the position region. Meaning that shock to ECGT will have a positive impact on FDI both in short and long run.

Panel 3 shows that response of FDI to a shock in EXCHR is negative initially but became positive and significant later just before the 4th period.

panel4 shows that INTR responded negatively initially but became positive just after the 5th period when it hits the steady state value from where it remains in the positive region from the 5th period 8th period. Meaning that shocks to INTR will have asymmetric impact on FDI in the short and long run.

Panel 5 shows that OILP responded positively initially but became negative just after the 2th period and it rise again in the 5th period. when it hits the steady state value from where it remains in the positive region from the 5th period 8th period. Meaning that shocks to OILP will have a positive impact on FDI in the short and long run. And also, theoretically the Nigerian economy mostly depend on crude oil as their national resources.

4.2.6 Variance Decomposition

Variance decomposition indicates the amount of information each variable contributes to the other variables in the model. It determines how more of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables. It identifies the predominant shocks that contribute more to the changes in the dependent variables in the model, in the short run one year forecast error, medium term 5 year forecast error and in the long run 10 year forecast error.

The table below provides the variability of FDI to changes in ECGT, EXCHR, INTR and OILP. ECGT contributes the most to changes in FDI both in the short run, medium and long run; followed by EXCHR and INT while OILP contributes the least to FDI.

In conclusion: innovation and response must be consistent with intuition, economic theory expectation. For instance, our results are consistent because with good economic growth like infrastructure, investors tend to invest more, and this leads to more economic development and creation of jobs, creating demand for production, investment goes up leading to economic growth.

Table 4.4
Variance Decomposition Result

Variance Decomposition of FDI: Period	S.E.	FDI	ECGT	EXCH	INTR	OILP
1	1.19E+09	100.0000	100.0000	0.000000	0.000000	0.000000
2	1.41E+09	90.47829	92.25208	0.155702	0.442436	1.033109
3	1.54E+09	88.25412	81.04469	0.344934	1.833361	1.659814
4	1.62E+09	88.61368	79.72408	0.617904	2.000156	1.583494
5	1.69E+09	83.74619	78.96717	3.421733	3.748875	1.805192
6	1.78E+09	79.05392	77.75642	5.978456	5.536557	2.732365
7	1.89E+09	71.72931	75.92805	9.529394	8.108737	4.415101
8	2.00E+09	65.38511	73.54593	12.46309	9.974393	6.492473
9	2.11E+09	59.48859	70.80863	15.16911	11.55923	8.525702
10	2.23E+09	54.83819	67.92949	17.13715	12.78730	10.28056

Source: Author's Computation Using E-View 9.0 version.

4.3 Implication of the Study

Considering the findings above, it is important to adopt both monetary and fiscal policy measure.

There are various actions and policies that have been formulated in developing countries to boost the economy, privatization is one of the method to boost the economy and initiate some high level business activity and government usually devise the policies to privatize the national assets. This attracts the foreign direct investment at large scale in the country to boost the industry and economy as well. African region took initiatives for

privatizing their national assets by opening doors for foreign and private investments, such as the opportunities have been given in telecom sector, airlines and tourism sector. Other industries included petrochemicals, cement industry and utilities, but there is lot more work needed to gain the benefits and need to expedite the process towards reduce the control and role of government in privatize market. Further initiatives need to be taken for better incentives and institutional requirements for private business set up and investment in various diverse industries.

The Big Push theory has a relationship with this studies, because it suggested that countries needed to jump from one stage of development to another through a virtuous cycle, in which large investments in infrastructure and education coupled with private investments would move the economy to a more productive stage, breaking free from economic paradigms appropriate to a lower productivity stage. The idea was revived and formulated rigorously, in the late 1980s by Murphy, Shleifer, Vishny (1988).

Therefore, big investment in education, technology and infrastructure coupled with private investment are desperately required to spur the needed economic growth in Nigeria. However, how can FDI itself be boosted if not by providing the right economic environment? And economic growth and development can only be achieved in an atmosphere of robust FDI.

The Solow and Swan model which was develop individually in has a connection with my studies (1956). The positive correlation between FDI and economic growth is situated in this growth theory that emphasizes the role of improved technology, efficiency and

productivity in promoting growth (Lim, 2001). The potential contribution of FDI to economic growth depends strictly on the circumstances in recipient countries. The Solow growth model shows how the growth in capital stock, growth in labor force and advance in technology interact and how they affect output. The supply and demand for goods play a central role in the Solow model. The supply of goods determines how much output is produced at any given time and the demand determines how this output is allocated among alternative uses. Solow growth model emphasized that an improved technology and efficiency of labor which accelerate economic growth while, the recipient countries provide conducive investment climate. Developing countries that wish to grow economically will have to put in place factors that can attract FDI. This model is therefore relevant for economic growth in Nigeria and other developing countries. Present study used the assumptions and suggestions of neoclassical theory to establish the relationships of variables, it implies that theory of economics outline that how stable economic growth can be achieved, meanwhile the purpose is to keep the amount and cash inflow for three main driving forces including labor, technology and most important the capital. The neoclassical theory depicts that amount of labor and amount of capital for production function, an equilibrium state is possible to accomplish the target of stabilizing the economy.

The most important factor considered in theory and the present study is usage of technology and technological changes as one of major influences towards the economy, the economic growth cannot be advanced without utilization of technology. Neoclassical theory of economic growth outline the factors of economy growth and states temporary equilibrium growth can be achieved by reallocation for right mix of three factors.

However, clarification of temporary equilibrium found to be different from long term equilibrium according to neoclassical growth and must be achieved without any of factors for short term growth.

The theory of economic growth which is named neoclassical theory believed that collection of capital and usage of capital are considered as important factors of growth of economy. Further, relationship among capital and labor of economy determine the productivity and output generate from the inputs. The most important factor technology plays crucial role in determining the relationship between FDI and economic growth of the country as mostly the investment have been made on utilization of latest technological advancements which influence the productivity and maximizing the input from labor. The production function is used to determine the growth and equilibrium of economy and written as Y = AF (K, L). Y presents the gross domestic product of economy; K demonstrates the capital share, L presents the unskilled labor and economy, A demonstrates the level of technology. However, labor and technology together influence the production function and it may be rewritten as Y = F (K, L).

The increase in any input will influence the output and will effect the GDP, therefore equilibrium of economy need to be consider as an expected change need to be observed. The three factors of neoclassical theory can never be equal such as capital, labor and technology, as long as labor and capital diminish the economy, which shows that increase in two inputs may decrease the return. On the other hand, technology plays crucial and important role in production as it is utilized by labor and required financial input. There is need to consider the other factors as availability of job and amount of workforce within

the economy. The technologies considered as caps and nonexistent, so it is possible to realist the exponentially higher growth and higher equilibrium.

The previously studies have been conducted with empirical evidences and it has been suggested that inflow of capital found to be more beneficial and create some issues and problems in long term and from direct investment. The growth of economy largely depends upon these factors discussed earlier in the study; such as the physical assets and consumed and boost the domestic industry. Contrary to the portfolio investments, the long term FDI found to be positive towards economy of nation according to Baharumshah et al., (2006). The short term investments and investment based on portfolio found to be associated with increase of consumption and cause of financial systems and fragility.

The policies of government must be devised to enhance the growth and must be coupled with macro-economic indicators to generate the better returns and healthy rate of return on investment to attract the FDI on higher level. For maximization of benefits from FDI Nigerian government must establish the agencies for better investments, improvements in local structure and regulations need to be initiate, development of financial markets are required, transparency is required in business and financial issues for sound and safe legal system to protect the foreign investment. A central authority and institute must be established for promoting market investment opportunities and attract genuine FDI.

For oil exporting country like Nigeria, a falling oil price is bad news. Many oil exporting countries rely on tax revenue from oil production to fund government spending. For example, Nigeria gains 70% of all tax revenues from oil and gas. Falling oil prices will

lead to a government budget deficit and will require either higher taxes or government spending cuts. Other oil exporters like Venezuela are relying on oil revenues to fund generous social spending. A fall in oil prices could lead to a significant budget deficit and social problems. So, it will be wise if the Nigerian government can diversify its economy to another source of generating income, such as Agriculture or service sectors.

Other oil exporters, such as Saudi Arabia and UAE have built up substantial foreign currency reserves; they can afford temporary falls in oil prices because they have substantial reserves. This is why Saudi Arabia has so far not responded by cutting output. Finally, this study also shows that economic growth, exchange rate and interest rate are the most important factors in the model impacting on foreign direct investment (FDI). therefore, the government most find solutions to infrastructure, corruption and political instability in the country in other to enable foreign investors to come in. Hence, government must put in place policies that will fix the problem of exchange rate fluctuations and incessant changes in interest rate.

Furthermore, macroeconomic challenges such as economic development, different exchange rates regimes, interest rate fluctuations etc. should be on the front burner of any government that is serious about making the economy grow because of its direct relationship on foreign direct investment into the Nigerian economy. Fixed exchange rate (pegged) and sound monetary policies should be brought to bear on the issues of exchange rate fluctuations and interest rate. Even though economic growth is among the independent variable, it is shown to be individually significant in impacting foreign direct

investment, it is necessary for the government to seek for ways of boosting the Nigerian economy.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Major Findings

The study comes up with these finding discussed below:

The study found that FDI is considered as one of major factor for growth of economy as cast inflow boosts the business activity. The study found that variables including FDI, INTR, ECGT, ECHR and OILP used for co-integration and stable relationship for long term purposes. The presence of co-integration according to Johnsen test it allowed the use of Granger Causality test for determining the causal direction between variables.

The results of Granger causality test shows that causality comes from foreign direct investment to ECGT but not from ECGT to Foreign direct investment. The results depicted positive results from FDI to economic growth of Nigeria. The results of the study will be helping for policy makers to utilization of FDI and attracting FDI for better economical conditions.

The study produced empirical evidences that exchange rate of Nigeria found to be affected for direct investment according to Granger caused, which depicted the capacity of progress on economic development of nation and financial performance depends on attraction to huge FDI. This study supports the impact of FDI on economic growth in Nigeria. These findings confirm the relevance of the economic reform programs in Nigeria to reduce macro-economic instability, remove economic distortions, promote exports and restore sustainable domestic investment for economic growth.

The study shows that significant positive spillover from foreign direct investment and economic growth (FDI-ECGT). The study found that there is direct effect of variables on each other, the significant and positive spillover has been observed from FDI on exchange rates of the currency of host country. This also shows that variables affect each other under causality existence. The study also depicted the results that positive and significant influence has been observed on oil prices (FDI-OILP).

The positive influence of exchange rate and economic growth also been observed by the study. This shows that there is direct effect found among variables, as causality exist among these variables. The significant and positive relationship found between economic growth and interest rates that also depicts the direct effect of variables on each other. Similarly, the direct and positive significant effects have been observed between economic growth and price of oil, which also demonstrates the causality existence among these factors.

Finally, the results of the study depicted that positive significant spillover between interest rate and exchange rates has been observed and this implies direct relationship among these variables on the base of existing causality. Finally, the study shows that oil price in Nigeria is granger caused by interest rate, thus, meaning that oil price responds positively to real interest rates.

5.2 Conclusion

Foreign direct investment bring benefits to the economy of nations specifically among developing countries, various scholars have analyzed the relationship between FDI and economic circumstance and economic stability. The study intended to examine the

relationship between foreign direct investment and economic growth of Nigeria, with presence of macro-economic variables. The gross domestic products ration was also considered in the study to determine the influence of FDI on economic conditions. The data was collected in time series form from the World Bank, and specific time slot included 1985 to 2017 and also used the time series data obtained from the World Bank included in the indicators of economic growth. Some of the data analysis techniques used in this research work are Unit root, Cointegration, Granger Causality, Vector Autoregression, Impulse Response test and Variance decomposition. The results of the study presented and came up with long term relationship existence among variables including direction of FDI flow and economic growth of the nation. The results show that growth has been observed on the base of foreign direct investment and cash inflow as result of private investments. Again, from our hypotheses and research questions in chapter one, its shows that foreign direct investment (FDI) has impact on economic growth of the Nigerian economy.

There is no doubt that finding of the present research brought and explored information gap and will be helping for establishing the plans for investment attractions by formulating both long term and short term relationship. Nigerian being 3rd world country, the most important task is to attract the huge FDI for boosting the economic activity and grasp benefits to the economy. Countries must be aware of potential risks, changes in exchange rates and macro-economics for collection of foreign direct investments beyond the capacity of nation.

The recent information on foreign direct investment (FDI) in Nigeria shows a lot of institutional weaknesses at the federal and state levels including poor institutions,

investment mis-management, corruption and infrastructural deficiencies (UNDP, 2010). However, within the context of the Paris Declaration on FDI effectiveness, there is need for capacity development activities in Nigeria in order to strengthen FDI management processes in line with the principles of harmonization, alignment and mutual accountability for better results in FDI management in Nigeria. Several donors often take advantage of these weaknesses and have been dealing directly with the ministries/agencies without recourse to the National Planning Commission at the federal level or the coordinating agency at the State levels (UNDP, 2010). From the result of the test, economic growth is significant at 5% probability level, the results have proved that there is a significant impact of foreign direct investment on economic growth in the country.

5.3 Recommendations

Based on the research objectives and findings, the following recommendations are giving:

1. The policies must be formulated and consider the macro-economic indicators for attracting huge FDI towards the industrial revolution to maximize the benefits for Nigerian economy. Establishment of new agencies, improvement in local regulations are needed to be incorporate, development of financial markets are required and there is need to establish transparent policies. A strong legal system must be incorporated for attractive FDI investment by protecting their investments through strong and transparent legal system.
2. Monetary policy is crucial here. There is need for the monetary authorities to pursue interest rate stability as swings in interest rate will pose a serious threat to

maintaining stability in real exchange rate. The pursuance of a stable exchange rate regime that results in a balance of payment position that is viable and sustainable is one of the ultimate goals of monetary policy. The pursuits of this objective and the extent to which they are met have important implications for economic growth and, indeed, the flow foreign direct investment (FDI) into Nigeria. Furthermore, foreign control policies should be adopted in order to help in determination of appropriate exchange rate value. This will go a long way to strengthen the Nigerian currency (naira).

3. The government must be able to support and formulate strategies to protect the local and domestic investors, the improvements in environment for existing businesses and domestic investors must incorporated by establishment of infrastructure changes, regulatory framework update and by relaxation of taxes and laws to initiate business activity. The domestic investors must be prioritized in local market to encourage the business activity and keep wealth in region by reduction in capital usage.
4. Improvements are needed in climate of investment, the FDI must be attracted and role of FDI must be identified in Nigerian context for economic growth by development of such policies on the base of findings of study and research. The study suggests that government should formulate the strategies for attracting and utilization of FDI while considering the important factors related to the internal situations of country including political aspect, macro indicators of economy, governance, infrastructure and regulations. The sustained political government

and related factors gain the confidence of investors and attract FDI at large scale to accomplish the objectives of nation.

5. The most important and crucial factor is innovation that is based on technological aspect of business, the usage of IT and required skills must be incorporated to enhance the production and productivity as technology and skills add value and output to the production which ultimately assist in gaining competitive edge. The low productivity may be nullified due to best utilization of effective technology and skills. The government must focus on utilization of technology and high skilled labor to meet the production and quality. Nigerian government must focus on adopting technological advancements for communication and to gain benefits from FDI.
6. Nigerian government need to focus on building the capacity of institutions, the improvement are required to initiate in system to eliminate the corruption for financial and economical transparency, the appropriate authorities and agencies must be incorporated in devising strategy to attract FDI by controlling and eliminating the corruption. The Nigerian Investment Promotion Commission (NIPC) can play their role in attracting foreign investors for providing opportunities in diverse industries for fruitful investments.
7. The appropriate infrastructure for transportation is required to be build by government, effective framework for policies to attract FDI must be initiated to conduct business activity in Nigeria and to attract FDI. The policies must be appropriate for local industries and investors as well as suitable and attractive for outside investors.

8. The exchange rate is one of important factor that influence the economic growth, Nigerian government should pay attention towards appropriate reserves to address the risk of exchange rates.
9. Nigerian government must consider the oil prices while implementing the policies for attracting FDI to the country, the appropriate measure must be taken into consideration while re-positioning the economic cycle.
10. The present study also suggested to develop infrastructure for transport but also to address the issue of electricity and energy, the effective and sound energy system must exist for long term survival of business activity and to meet increased demand of energy for industrial sector, technology must be implemented in conducted business operations, infrastructure must be appropriate and needed to be developed for utilization of latest technological equipment. Research scholars such as Sjoholm (1999) and Kinoshita (1998) suggested to avail technology to meet the competitive benchmark by training employees and creation of links among related industries. The phenomenon can be observed in Asian region, so it must be imitate in Nigerian region.

5.4 Limitations of the Study

All the studies conducted anywhere in the world face the challenges and issues generally known as limitation of study. The present study has its scope and it is not possible to incorporate all variables or possibilities to generalize the phenomenon, the present study has the limitation of time specifically and resources to collect data. The review of existing and previous literature in time series and analysis of the literature consume considerable time and face challenges in time management. For data collection it is not

possible to rely on published material. Internet sites mostly secured but sometimes restrictions has to be faced in gathering data or even had to get registration in order to gain some information.

5.5 Further Areas of Research

The study contributes to explore the relation and link between foreign direct investment and economic growth of the country. The various studies have been used to determine the effect and explained the phenomenon of FDI and economic growth in Nigerian context. It has been concluded by the study that economy of Nigeria receives impact from FDI and inflow of investment during specific time period had different effect due to the size of FDI.

The current study go beyond the examination of relationship between FDI and economic growth, but analyzed the multivariate aspect of investment that leads for economic growth by discussing the role of exchange rates, rate of interest in local market and specifically oil prices as these variables has significant influence on economic conditions. The study shows that developing countries such as Nigeria can successfully retain the investment level by protecting local industry and enjoy the economic growth by initiating various developmental plans. Government needs to focus on devising the appropriate strategies for attracting foreign direct investments.

The present study also gave access to researchers to look into deep analysis of foreign direct investments and their impact on economical conditions through models used and discussed in subsequent part of the study. The study entail the discussion on exchange

rates variations, interest rates and prices of natural resources such as oil to attract and retain required level of foreign direct investment in Nigeria.

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APPENDICES

APPENDIX I

UNIT ROOT TEST USING AUGMENTED DICKEY-FULLER (ADF)

1a. FDI AT LEVEL

Null Hypothesis: FDI has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.672366	0.2539
Test critical values:	1% level	-4.284580	
	5% level	-3.562882	
	10% level	-3.215267	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FDI)

Method: Least Squares

Date: 04/28/19 Time: 21:05

Sample (adjusted): 1986 2017

Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.

FDI(-1)	-0.407200	0.152374	-2.672366	0.0124
C	-29896879	1.12E+08	-0.265822	0.7923
@TREND(1985)	17780576	8625151.	2.061480	0.0487

R-squared	0.204352	Mean dependent var	41905129
Adjusted R-squared	0.147520	S.D. dependent var	3.26E+08
S.E. of regression	3.01E+08	Akaike info criterion	41.97666
Sum squared resid	2.54E+18	Schwarz criterion	42.11543
Log likelihood	-647.6382	Hannan-Quinn criter.	42.02189
F-statistic	3.595718	Durbin-Watson stat	2.217384
Prob(F-statistic)	0.040747		

1b. FDI AT 1ST DIFFERENCE

Null Hypothesis: D(FDI) has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.513640	0.0000
Test critical values:	1% level	-4.296729	
	5% level	-3.568379	
	10% level	-3.218382	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FDI,2)

Method: Least Squares

Date: 04/28/19 Time: 21:09

Sample (adjusted): 1987 2017

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI(-1))	-1.362218	0.181299	-7.513640	0.0000
C	21870571	1.26E+08	0.173463	0.8636
@TREND(1985)	2344435.	6787401.	0.345410	0.7325

R-squared	0.676695	Mean dependent var	-5901200.
Adjusted R-squared	0.652747	S.D. dependent var	5.44E+08
S.E. of regression	3.21E+08	Akaike info criterion	42.10517
Sum squared resid	2.78E+18	Schwarz criterion	42.24529
Log likelihood	-628.5775	Hannan-Quinn criter.	42.14999
F-statistic	28.25625	Durbin-Watson stat	2.115138
Prob(F-statistic)	0.000000		

2a. ECGT

Null Hypothesis: ECGT has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.559330	0.0052
Test critical values:	1% level	-4.284580	
	5% level	-3.562882	
	10% level	-3.215267	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ECGT)

Method: Least Squares

Date: 04/28/19 Time: 21:12

Sample (adjusted): 1986 2017

Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECGT(-1)	-0.867729	0.190319	-4.559330	0.0001
C	0.853027	2.636977	0.323487	0.7487
@TREND(1985)	0.188444	0.150322	1.253607	0.2204

R-squared	0.426237	Mean dependent var	-0.319355
Adjusted R-squared	0.385254	S.D. dependent var	9.111071
S.E. of regression	7.143602	Akaike info criterion	6.862077

Sum squared resid	1428.870	Schwarz criterion	7.000850
Log likelihood	-103.3622	Hannan-Quinn criter.	6.907314
F-statistic	10.40032	Durbin-Watson stat	1.727021
Prob(F-statistic)	0.000419		

3a.EXCH AT LEVEL

Null Hypothesis: EXCH has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.603155	0.7685
Test critical values:	1% level	-4.284580	
	5% level	-3.562882	
	10% level	-3.215267	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(EXCH)

Method: Least Squares

Date: 04/28/19 Time: 21:13

Sample (adjusted): 1986 2017

Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXCH(-1)	-0.251484	0.156868	-1.603155	0.1201
C	-7.513916	7.599534	-0.988734	0.3313
@TREND(1985)	2.244701	1.119694	2.004746	0.0547

R-squared	0.153641	Mean dependent var	8.148387
Adjusted R-squared	0.093186	S.D. dependent var	17.56020
S.E. of regression	16.72201	Akaike info criterion	8.563095
Sum squared resid	7829.521	Schwarz criterion	8.701868
Log likelihood	-129.7280	Hannan-Quinn criter.	8.608331
F-statistic	2.541435	Durbin-Watson stat	1.373648
Prob(F-statistic)	0.096776		

3b.EXCH AT 1ST DIFFERENCE

Null Hypothesis: D(EXCH) has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.697738	0.0381
Test critical values:	1% level	-4.296729	
	5% level	-3.568379	
	10% level	-3.218382	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(EXCH,2)

Method: Least Squares

Date: 04/28/19 Time: 21:16

Sample (adjusted): 1987 2017

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXCH(-1))	-0.822761	0.222504	-3.697738	0.0010
C	-0.951408	6.938521	-0.137120	0.8920
@TREND(1985)	0.497641	0.374266	1.329644	0.1948

R-squared	0.347705	Mean dependent var	2.006333
Adjusted R-squared	0.299387	S.D. dependent var	21.01154
S.E. of regression	17.58721	Akaike info criterion	8.666861
Sum squared resid	8351.373	Schwarz criterion	8.806981
Log likelihood	-127.0029	Hannan-Quinn criter.	8.711686
F-statistic	7.196152	Durbin-Watson stat	1.786189
Prob(F-statistic)	0.003126		

4a. INT AT LEVEL

Null Hypothesis: INT has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.120813	0.0001
Test critical values:	1% level	-4.284580	
	5% level	-3.562882	
	10% level	-3.215267	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(INT)

Method: Least Squares

Date: 04/28/19 Time: 21:18

Sample (adjusted): 1986 2017

Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INT(-1)	-1.134597	0.185367	-6.120813	0.0000
C	-11.78187	6.574250	-1.792124	0.0839
@TREND(1985)	0.740265	0.362595	2.041577	0.0507

R-squared	0.572515	Mean dependent var	0.096774
Adjusted R-squared	0.541980	S.D. dependent var	25.41487
S.E. of regression	17.20006	Akaike info criterion	8.619469
Sum squared resid	8283.579	Schwarz criterion	8.758242
Log likelihood	-130.6018	Hannan-Quinn criter.	8.664705
F-statistic	18.74969	Durbin-Watson stat	2.079902
Prob(F-statistic)	0.000007		

5a oilp at level

Null Hypothesis: OILP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.913874	0.0560
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OILP)
Method: Least Squares
Date: 07/15/19 Time: 06:22
Sample (adjusted): 1986 2014
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OILP(-1)	-0.501355	0.172058	-2.913874	0.0071
C	6.781833	2.543558	2.666278	0.0128

R-squared	0.239236	Mean dependent var	-0.119058
Adjusted R-squared	0.211060	S.D. dependent var	5.625411
S.E. of regression	4.996619	Akaike info criterion	6.121872
Sum squared resid	674.0875	Schwarz criterion	6.216168
Log likelihood	-86.76715	Hannan-Quinn criter.	6.151405
F-statistic	8.490661	Durbin-Watson stat	1.616474
Prob(F-statistic)	0.007089		

APPENDIX II

GRANGER CAUSALITY TEST

Pairwise Granger Causality Tests
Date: 07/15/19 Time: 04:49
Sample: 1985 2017
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ECGT does not Granger Cause FDI	31	0.62957	0.5407
FDI does not Granger Cause ECGT		9.76312	0.0007

EXCH does not Granger Cause FDI	27	2.81830	0.0813
FDI does not Granger Cause EXCH		0.06737	0.9350
INTR does not Granger Cause FDI	31	0.42570	0.6578
FDI does not Granger Cause INTR		0.97518	0.3905
OILP does not Granger Cause FDI	28	0.42566	0.6584
FDI does not Granger Cause OILP		3.03402	0.0677
EXCH does not Granger Cause ECGT	27	4.82618	0.0183
ECGT does not Granger Cause EXCH		0.04117	0.9597
INTR does not Granger Cause ECGT	31	0.33465	0.7186
ECGT does not Granger Cause INTR		3.06163	0.0640
OILP does not Granger Cause ECGT	28	0.41637	0.6643
ECGT does not Granger Cause OILP		3.65143	0.0420
INTR does not Granger Cause EXCH	27	3.71595	0.0407
EXCH does not Granger Cause INTR		1.39890	0.2680
OILP does not Granger Cause EXCH	27	0.75635	0.4812
EXCH does not Granger Cause OILP		1.48575	0.2482
OILP does not Granger Cause INTR	28	4.83330	0.0177
INTR does not Granger Cause OILP		1.13586	0.3385

APPENDIX III

VARIANCE DECOMPOSITION OF FDI

Variance Decomposition of FDI: Period	S.E.	FDI	ECGT	EXCH	INTR	OILP
1	1.19E+09	100.0000	0.000000	0.000000	0.000000	0.000000
2	1.41E+09	90.47829	7.890462	0.155702	0.442436	1.033109
3	1.54E+09	88.25412	7.907776	0.344934	1.833361	1.659814
4	1.62E+09	88.61368	7.184766	0.617904	2.000156	1.583494
5	1.69E+09	83.74619	7.278005	3.421733	3.748875	1.805192
6	1.78E+09	79.05392	6.698706	5.978456	5.536557	2.732365
7	1.89E+09	71.72931	6.217463	9.529394	8.108737	4.415101
8	2.00E+09	65.38511	5.684931	12.46309	9.974393	6.492473
9	2.11E+09	59.48859	5.257357	15.16911	11.55923	8.525702
10	2.23E+09	54.83819	4.956795	17.13715	12.78730	10.28056

APPENDIX IV

VECTOR AUTOREGRESSION

Vector Autoregression Estimates
Date: 07/15/19 Time: 04:58
Sample (adjusted): 1987 2013
Included observations: 27 after adjustments
Standard errors in ( ) & t-statistics in [ ]

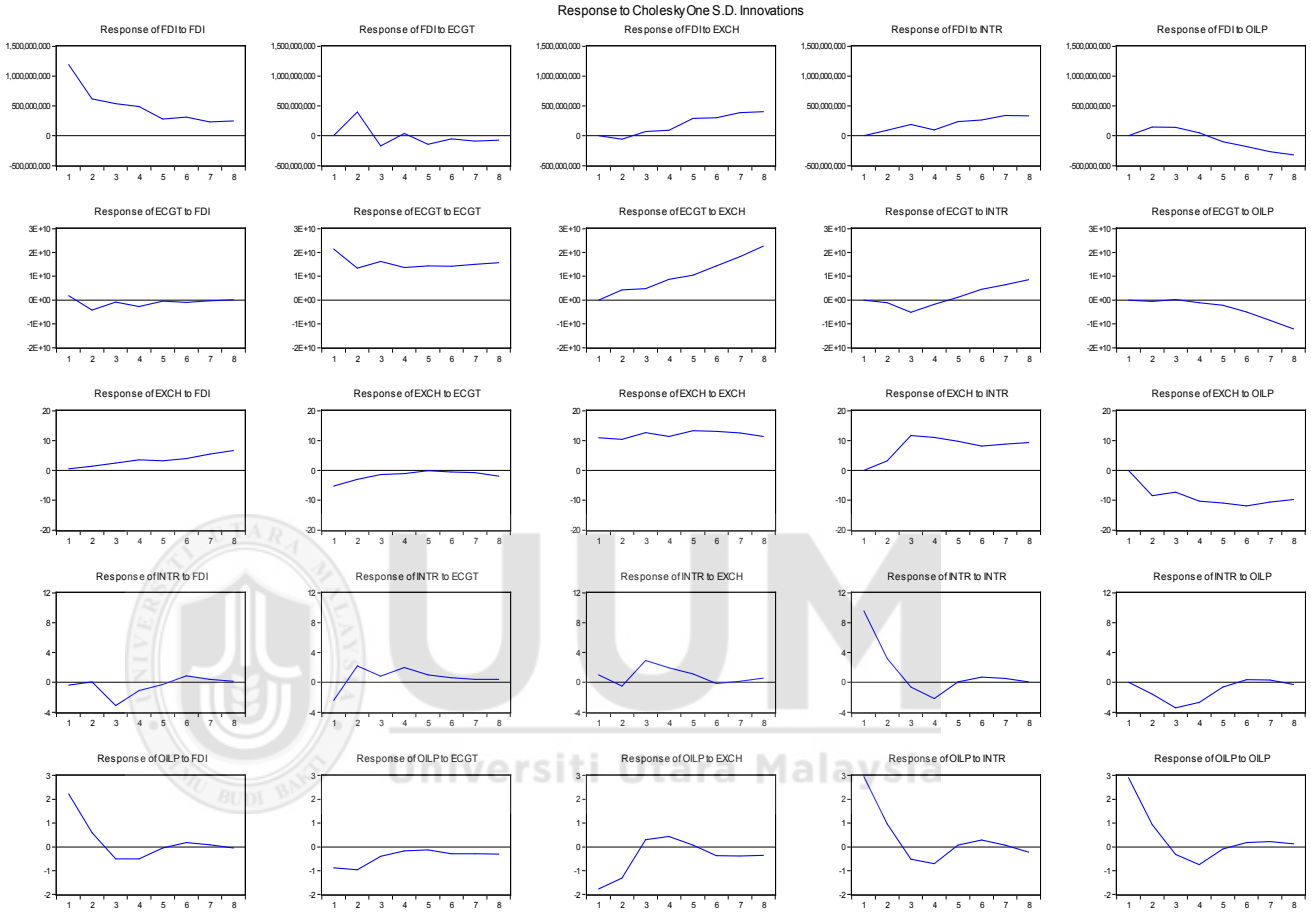
	FDI	ECGT	EXCH	INTR	OILP
FDI(-1)	0.390760	-4.532017	6.78E-09	1.14E-09	1.58E-11
	(0.34067)	(6.13876)	(3.5E-09)	(2.8E-09)	(1.5E-09)
	[1.14704]	[-0.73826]	[1.96196]	[0.40142]	[0.01082]
FDI(-2)	0.284942	0.055780	1.07E-10	1.91E-10	4.72E-11
	(0.33948)	(6.11732)	(3.4E-09)	(2.8E-09)	(1.5E-09)
	[0.83935]	[0.00912]	[0.03103]	[0.06726]	[0.03247]
ECGT(-1)	0.020826	0.698216	-2.76E-11	9.25E-11	-4.92E-11
	(0.01408)	(0.25374)	(1.4E-10)	(1.2E-10)	(6.0E-11)
	[1.47897]	[2.75170]	[-0.19292]	[0.78736]	[-0.81599]
ECGT(-2)	-0.021840	0.431901	-1.68E-10	-1.29E-10	2.45E-11
	(0.01583)	(0.28520)	(1.6E-10)	(1.3E-10)	(6.8E-11)
	[-1.37993]	[1.51440]	[-1.04653]	[-0.97534]	[0.36206]
EXCH(-1)	3466346.	3.62E+08	0.374956	-0.178878	-0.069291
	(2.4E+07)	(4.3E+08)	(0.24022)	(0.19760)	(0.10137)
	[0.14637]	[0.84769]	[1.56086]	[-0.90523]	[-0.68355]
EXCH(-2)	6108541.	97355500	0.431038	0.134071	0.077187
	(2.3E+07)	(4.2E+08)	(0.23661)	(0.19463)	(0.09984)
	[0.26189]	[0.23163]	[1.82173]	[0.68885]	[0.77308]
INTR(-1)	-5387290.	-50613665	1.227200	0.498308	0.001857
	(3.7E+07)	(6.6E+08)	(0.37361)	(0.30732)	(0.15765)
	[-0.14627]	[-0.07626]	[3.28472]	[1.62144]	[0.01178]
INTR(-2)	6425561.	-9.68E+08	0.970426	0.277338	0.060891
	(3.7E+07)	(6.7E+08)	(0.37717)	(0.31026)	(0.15916)
	[0.17281]	[-1.44493]	[2.57289]	[0.89390]	[0.38258]
OILP(-1)	49365175	-2.07E+08	-2.899154	-0.535561	0.317022
	(8.5E+07)	(1.5E+09)	(0.86099)	(0.70823)	(0.36332)
	[0.58161]	[-0.13539]	[-3.36725]	[-0.75619]	[0.87258]
OILP(-2)	23619823	1.51E+09	-0.199013	-1.287984	-0.424700
	(7.5E+07)	(1.4E+09)	(0.76326)	(0.62784)	(0.32208)
	[0.31391]	[1.11183]	[-0.26074]	[-2.05144]	[-1.31862]

C	-8.85E+08	-3.50E+10	72.55790	30.89925	18.73818
	(2.3E+09)	(4.1E+10)	(23.1197)	(19.0179)	(9.75598)
	[-0.38819]	[-0.85275]	[3.13836]	[1.62475]	[1.92069]
R-squared	0.851634	0.987178	0.975497	0.499989	0.470812
Adj. R-squared	0.758905	0.979165	0.960182	0.187481	0.140069
Sum sq. resids	2.27E+19	7.37E+21	2334.900	1579.895	415.7643
S.E. equation	1.19E+09	2.15E+10	12.08020	9.936972	5.097575
F-statistic	9.184130	123.1883	63.69762	1.599927	1.423499
Log likelihood	-595.4923	-673.5619	-98.51982	-93.24657	-75.22414
Akaike AIC	44.92536	50.70829	8.112579	7.721968	6.386973
Schwarz SC	45.45329	51.23622	8.640513	8.249902	6.914907
Mean dependent	2.63E+09	1.54E+11	79.39862	1.165188	13.68554
S.D. dependent	2.43E+09	1.49E+11	60.53913	11.02396	5.497077

Determinant resid covariance (dof adj.)	5.91E+43
Determinant resid covariance	4.32E+42
Log likelihood	-1516.866
Akaike information criterion	116.4345
Schwarz criterion	119.0742

APPENDIX V

IMPULSE RESPONSE



APPENDIX VI

JOHANSEN CO-INTEGRATION TEST

Date: 07/15/19 Time: 04:45
Sample (adjusted): 1987 2013
Included observations: 27 after adjustments
Trend assumption: Linear deterministic trend
Series: FDI ECGT EXCH INTR OILP
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**

None *	0.729850	85.62633	69.81889	0.0016
At most 1 *	0.613560	50.28929	47.85613	0.0290
At most 2	0.484231	24.61829	29.79707	0.1756
At most 3	0.217525	6.741702	15.49471	0.6079
At most 4	0.004389	0.118766	3.841466	0.7304

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.729850	35.33704	33.87687	0.0333
At most 1	0.613560	25.67100	27.58434	0.0861
At most 2	0.484231	17.87659	21.13162	0.1345
At most 3	0.217525	6.622935	14.26460	0.5346
At most 4	0.004389	0.118766	3.841466	0.7304

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

FDI	ECGT	EXCH	INTR	OILP
5.56E-10	-1.52E-11	-0.004359	0.189849	-0.366021
-6.90E-11	4.53E-12	0.012042	-0.082267	-0.109489
3.65E-10	-1.16E-11	-0.022283	0.065313	-0.297336
6.71E-10	1.14E-12	-0.028763	0.026537	-0.029116
-2.16E-09	4.47E-11	0.007266	-0.084069	0.176701

Unrestricted Adjustment Coefficients (alpha):

D(FDI)	-72821785	-3.23E+08	7908261.	-4.63E+08	-940641.3
D(ECGT)	3.87E+09	1.05E+10	-1.29E+10	-2.21E+09	-1.29E+08
D(EXCH)	7.579520	-6.220888	3.117747	0.485203	-0.361470
D(INTR)	-0.897091	4.978671	5.304993	-0.390050	-0.230785
D(OILP)	0.688514	2.141764	2.258064	-1.210122	0.084910

1 Cointegrating Equation(s): Log likelihood -1542.010

Normalized cointegrating coefficients (standard error in parentheses)

FDI	ECGT	EXCH	INTR	OILP
1.000000	-0.027425	-7844795.	3.42E+08	-6.59E+08
	(0.00394)	(8318425)	(4.6E+07)	(1.0E+08)

Adjustment coefficients (standard error in parentheses)

D(FDI)	-0.040464
	(0.13379)
D(ECGT)	2.149542
	(2.92428)

D(EXCH)	4.21E-09			
	(1.4E-09)			
D(INTR)	-4.98E-10			
	(1.3E-09)			
D(OILP)	3.83E-10			
	(6.4E-10)			

2 Cointegrating Equation(s): Log likelihood -1529.175

Normalized cointegrating coefficients (standard error in parentheses)

FDI	ECGT	EXCH	INTR	OILP
1.000000	0.000000	1.12E+08	-2.69E+08	-2.27E+09
		(5.8E+07)	(3.2E+08)	(7.4E+08)
0.000000	1.000000	4.37E+09	-2.23E+10	-5.88E+10
		(2.1E+09)	(1.2E+10)	(2.6E+10)

Adjustment coefficients (standard error in parentheses)

D(FDI)	-0.018170	-0.000352	
	(0.12862)	(0.00365)	
D(ECGT)	1.423635	-0.011342	
	(2.63637)	(0.07485)	
D(EXCH)	4.64E-09	-1.44E-10	
	(1.2E-09)	(3.5E-11)	
D(INTR)	-8.42E-10	3.62E-11	
	(1.2E-09)	(3.3E-11)	
D(OILP)	2.35E-10	-7.94E-13	
	(5.9E-10)	(1.7E-11)	

3 Cointegrating Equation(s): Log likelihood -1520.237

Normalized cointegrating coefficients (standard error in parentheses)

FDI	ECGT	EXCH	INTR	OILP
1.000000	0.000000	0.000000	-1.14E+09	-3.66E+09
			(5.0E+08)	(1.2E+09)
0.000000	1.000000	0.000000	-5.62E+10	-1.13E+11
			(1.9E+10)	(4.7E+10)
0.000000	0.000000	1.000000	7.769742	12.40128
			(3.05258)	(7.47500)

Adjustment coefficients (standard error in parentheses)

D(FDI)	-0.015283	-0.000444	-3747279.
	(0.15353)	(0.00453)	(5903318)
D(ECGT)	-3.273141	0.138420	3.96E+08
	(2.49102)	(0.07343)	(9.6E+07)
D(EXCH)	5.78E-09	-1.80E-10	-0.177424
	(1.4E-09)	(4.1E-11)	(0.05356)
D(INTR)	1.09E-09	-2.55E-11	-0.054349
	(1.1E-09)	(3.4E-11)	(0.04404)
D(OILP)	1.06E-09	-2.71E-11	-0.027527
	(6.1E-10)	(1.8E-11)	(0.02360)

4 Cointegrating Equation(s): Log likelihood -1516.925

Normalized cointegrating coefficients (standard error in parentheses)

FDI	ECGT	EXCH	INTR	OILP
1.000000	0.000000	0.000000	0.000000	-5.84E+08
				(1.9E+08)
0.000000	1.000000	0.000000	0.000000	3.88E+10
				(1.1E+10)
0.000000	0.000000	1.000000	0.000000	-8.588062
				(2.92913)
0.000000	0.000000	0.000000	1.000000	2.701421
				(0.86964)

Adjustment coefficients (standard error in parentheses)

D(FDI)	-0.326333	-0.000972	9581722.	959192.6
	(0.19418)	(0.00405)	(7906919)	(4.5E+07)
D(ECGT)	-4.756215	0.135905	4.60E+08	-1.03E+09
	(3.49910)	(0.07290)	(1.4E+08)	(8.1E+08)
D(EXCH)	6.10E-09	-1.79E-10	-0.191379	2.167238
	(2.0E-09)	(4.1E-11)	(0.08027)	(0.45487)
D(INTR)	8.32E-10	-2.60E-11	-0.043131	-0.243756
	(1.6E-09)	(3.4E-11)	(0.06601)	(0.37406)
D(OILP)	2.47E-10	-2.85E-11	0.007279	0.069886
	(8.3E-10)	(1.7E-11)	(0.03385)	(0.19185)